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Government
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Submission to the
Select Committee of the Legislature
of the Province of Ontario

Enquiring into Motorized Snow Vehicles,
all Terrain Vehicles and Motorcycles

by the

Motorcycle Industry Import Committee



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S U B M I S S I O N

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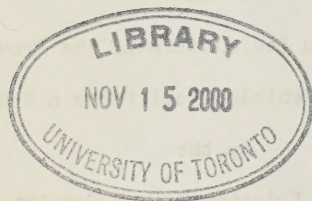


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A. Motorcycle Industry Import Committee

The Motorcycle Industry Import Committee (MIIC) was formed in January 1971, as a trade committee of the Canadian Importers Association. The Canadian Importers Association was formed in 1932 to promote and dispense information about imports into Canada and to act as spokesman for the import community. Through the sixties the growth in the industry required conscious development of new standards and safety measures necessitating consultation between industry and government, hence the birth of the MIIC.

As of January 1973 the MIIC represents more than 95% of the motorcycle industry in Canada. In addition a number of motorcycle accessory distributors are members of the MIIC. The committee does not represent dealers or retailers however, is closely associated with provincial dealer organizations across Canada.

The principle aims and objectives of the MIIC as noted in the by-laws are to:

- (i) foster the trade, commerce and interests of importers of motorcycles and related products.
- (ii) promote the interest and safety of motorcyclists and motorcycling in Canada.
- (iii) to co-operate with government to develop uniform standards for the safety of motorcyclists and the general public.

The (MIIC) is active in implementing these objectives. It is our desire to promote safety and along with government to serve the public interest. This is the spirit which characterizes the following comments.

The (MIIC) is as designated in the governing by-laws a non-profit organization.

A list of voting and non-voting members is noted in the appendix, as is a short list of projects undertaken and completed during 1972.

Motorcycle Import Trends

A brief look at motorcycle imports for years 1970, 71, 72 shows their numerical and dollar value increase over this period. It also sets a growth pattern for motorcycle use in the transportation and recreational fields. In times of fuel shortages and high prices 70-100 miles per gallon of gasoline goes a long way to alleviate the fuel shortage and general traffic congestion. Young and old are turning increasingly to motorcycles for transport and sport as evidenced by continued increase in their numbers. This corresponds to the trends already established internationally.


Class - 587-30

Motorcycle imports.

	<u>1970</u>	<u>1971</u>	<u>1972</u>
Quantity (units	55,065	90,990	109,470
Value (Canadian \$)	14,904,000.00	25,575,000.00	42,027,000.00

The trend appears to be a continued increase possibly 10-18% per annum in the number of machines sold, possibly more.

With the continued increase in annual sales the motorcycle industry plans to undertake promotion of general driver safety and hopes that the government will undertake similar positive measures. It is hoped that these measures will be reflected in legislation which promotes the possibility of driver education as proposed generally in the content of this brief.



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B. A Profile of the Motorcycle Industry

General Introduction

Motorcycles are almost exclusively imported into Canada. All motor vehicles imported or manufactured in Canada must comply with the Motor Vehicle Safety Act and regulations (see appendix), as specified by the Ministry of Transportation, Ottawa.

Technological developments have in the past decade resulted in production of safe, reliable machinery ensuring maximum quality and dependability. The motorcycle was initially designed to facilitate transportation. Its origin assisted over one hundred years ago the development of the automobile industry. This is traced back to Mr. Daimler of Mercedes Benz who in the mid 1860's developed a motorcycle prototype operated by a one cylinder gasoline engine. Like the auto, have motorcycles /become more sophisticated and the industry has taken giant strides throughout the world as a basic mode of transportation and recreational vehicle. It is extensively used throughout Europe and Asia and growing fast in North America.

The motorcycle has served the police forces of the world and the military of all nations for decades. The value and usefulness of the motorcycle have been clearly established. It is unfortunate that the nature of publicity generated by films and the media on occasion incorrectly and unfairly characterizes motorcyclists. In fact the "gang element" alluded to here, does not constitute even one half of one percent of the motorcycle population. The average motorcyclist is in his twenties and is an educated and socially conscious individual.

As we enter an age where leisure time has considerably increased, for example, in the industrial sector the weekly hours worked have decreased by 20% since 1945, paid vacations have increased while the

retirement age has been lowered. The four day work week is here and according to union representatives, spreading. This increase in leisure has resulted in the development of a variety of sporting and recreational activities, among which are motorcycling; touring, trail riding and organized racing. Motorcycling has developed into a wholesome and satisfying activity for some 1,000,000 Canadians and 20,000,000 Americans. These figures include motorcyclists and their friends and families directly involved with some aspect of motorcycling.

Motorcycles contribute significantly in Canada's trade relations internationally. For example motorcycles represent Japan's fourth most important export to Canada after Auto's, steel and electronics products. Canada hopes in the 1973 GATT discussions in Tokyo to gain concessions for her manufactured goods on the Japanese market by pointing to the relative importance of the Canadian market to the Japanese motorcycle industry.

Since 1966 there has been a continuously high increase in motorcycle sales in Canada. Changing tastes and work habits, increasing inflation, concern for the environment and urban congestion are all factors which have to some degree influenced the increased popularity of the motorcycle as a transportation and recreational vehicle.

The fact that a variety of machine types and sizes whose uses differ are available to satisfy the different interests of family members and public alike make the motorcycle generally a family vehicle.

Increasing interest is being shown in trail and medium capacity machines not only by the teenage buyer but by couples in their 40's. You do meet the nicest people!

The motorcycle market promises continued stabilized growth in Canada. Increasing emphasis is being exerted by industry to ensure safety and

reliability for the benefit of the consumer and the public.

C. The Canadian Motorcycle Market

(i) New Registrations and Growth

Considering an assumed unit life of 4 - 5 years, motorcycle registrations in Canada increased from 40,000 in 1966 to 240,000 in 1973. The increase has been greatest since 1969 at which time registrations in Canada were some 70,000 units. Ontario has over one quarter of the total registrations, or some 75,000 units. It should be pointed out that minibikes and trail machines are not registered and comprise over one third of the total registered machines.

New registrations in Canada during 1973 will amount to some 75,200 units of which some 16,500 will be sold in Ontario; 34,000 in Quebec; 8,700 in British Columbia; 5,000 in Alberta and 5,000 in New Brunswick, Nova Scotia and Prince Edward Island. The market increase in motorcycle sales will stabilize. While projections are for continued growth annual increases will be less dramatic than the fifty percent increase in 1971 and twenty-five percent increase in 1972.

(ii) Employment and Salaries generated by Motorcycle Industry

It is estimated that some 3,000 Canadians are employed in the motorcycle industry, of these some 450-500 are found at the Distributor level, 2,350 at the retail level and the rest involved in the distribution and sale of accessories and parts.

The motorcycle industry generates some \$22,500,000 in salaries at the distribution and retail levels in Canada. Physical plants are expanding annually and are valued in the

hundreds of millions. Significant employment is generated in service and building trades increasing the contribution of the motorcycle industry to the Gross National Product.

In dollar terms at the distributor level we can consider a 1973 value of \$78,000,000 worth of units sold. Add some \$14,000,000 for parts and accessories for a total of \$92,000,000. The total value at the retail level can be ascertained by adding 25% to distributor figures for some \$115,000,000 generated at the consumer level. Again consider services i.e. insurance and dealer services, and significantly more value is generated by the motorcycle industry both in employment and dollars. Ontario enjoys some 30% of the Canadian motorcycle dollars and service value. Across Canada approximately \$12,000,000 is paid out for gasoline on the basis of 1973 figures which is some 24,000,000 gallons.

(iii) Motorcycle Distributors

Some 25 distributors import and manufacture motorcycles in Canada. All prominent international brands are available in Canada. Check the appendix for a complete list of motorcycle distributors. All distributors participate in the activities of the MIIC.

(iv) Motorcycle Dealers

Eleven hundred dealers operate retail shops across Canada. Of these 250 are in Ontario. Motorcycle dealers in Ontario are represented by the Ontario Retail Motorcycle Dealers Association (ORMDA). British Columbia, Alberta and Quebec are also represented by Dealer Associations. Their objectives are to promote the interests of their dealer membership

and the interests of motorcycling generally through liaison with government bodies throughout the province.

(v) Industry Prospects

The motorcycle industry is a substantial economic force with excellent growth potential. Motorcycling is a sport and transportation medium and should be encouraged to develop along positive lines.

The MIIC recommends that legislation controlling motorcycle use should be realistic, it should demand maximum public safety it should not unnecessarily prejudice motorcycles, motorcycling or motorcyclists.

In order that a positive rapport is maintained, the Federal government and industry representatives meet periodically to discuss standards. Every effort is being made to maximize safety and develop safer and realistic standards. Similarly the MIIC is in constant contact with provincial transport authorities. We are co-operating with Ontario's Department of the Environment in a noise test program to establish realistic noise limits. This co-operation is available to all provinces.

We recommend that all provinces keep in mind the need for legislative standardization throughout Canada.

D. Education and Safety

Motorcycling is fun! The pleasure of controlling a two wheeled vehicle on the road must be experienced to be appreciated. While motorcycles are inexpensive, economic and exhilarating there is an element of danger particularly to the beginner without adequate safety education and training. No protective box surrounds the motorcyclist. The machine must be balanced with care and a watchful eye maintained for unfavourable

road conditions to ensure safety.

(i) The Automobile and Motorcycle Accidents

The greatest obstacle to the motorcyclist is that the Auto Federal statistics prove that 72% of motorcycle accidents are the fault of Auto drivers. Motorists tend to crowd or cut off motorcycles, to turn in front of, (left turn) or claim complete obliviousness to the presence of motorcycles. Considering the relative numbers of auto's versus motorcycles this is not unexpected. Motorists are looking out for motorists. They have little to fear from motorcycles hence do not watch out for them. This is a sadly neglected area, one where road safety might be taught more realistically and comprehensively in education curriculums. All road users must be made aware of their responsibility to others. There is a degree of risk in driving a motorcycle, this is a fact. There is risk in all activities. But, this risk is greatly minimized if, first, one is proficient in the activity, two, all external hazards are removed by making general proficiency mandatory among all drivers.

The fact that motorists and drivers must be licensed to operated on public roads suggests a basic degree of competence and awareness of the rules of the road. While motorcycle accident statistics have shown an increase in the past three years, the fact that 72% of all motorcycle accidents involve an automobile which is at fault suggests that initiative in the area of general driver education would be appropriate. It must also be remembered that motorcycles have themselves dramatically increased during this period. It is suggested that the i

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that the increase in motorcycle accidents must be analyzed by considering the 72% motorist factor, the great increase in motorcycle numbers on the highway against the fact that no effective comprehensive driver safety programs are available.

(ii) Defensive Driving

While the involvement of cars in motorcycle accidents is an important factor in their analysis, motorcyclists must themselves assume certain responsibilities. Motorcyclists should select their machine carefully, choose the size which suits their experience and needs, use all available safety equipment. Most important motorcyclists should be taught to ride defensively, to maintain constant awareness of the environment and other vehicles in it.

(iii) Protective Equipment

Protective equipment includes a jacket, preferably leather in a bright colour, pants, boots, gloves, goggles or face shield. Most essential is a good quality helmet. That motorcycle helmets save lives has been proven dramatically. In states with helmet laws, the drop in the motorcycle fatality rate ranged from six per cent in Arkansas to 25 per cent in New York after the helmet laws were enacted, according to (U.S.) government figures. Care should be taken to ensure that the helmet is in good condition. A helmet should be replaced every four years, and immediately replaced if involved in an accident.

Inability of motorists to see motorcyclists is a contributing factor in motorcycle accidents. One way to make himself more visible is to keep lights on at all times. In the U.S. the National Highway Traffic Safety Association

attributes a drop of nearly four percent in the number of daytime motorcycle accidents in Indiana, Montana, Oregon and Wisconsin to a state requirement to drive with lights on during daylight hours.

Motorcyclists would be more clearly seen if they wore bright coloured, reflective clothing. Reflectorized tape applied to helmets would make it more readily visible particularly at night. Motorcyclists should use horns where appropriate and switch lights repeatedly if there is any indication they are not clearly visible. These among others should be tips available generally to motorcyclists through driver education. Appended is a list of safety tips with which all motorcyclists should be familiar (Appendix)

E. The Motorcycle & Safety Regulations

(i) Motor Vehicle Safety Act (MVSA) and Regulations

The Ministry of Transportation (MOT), Ottawa controls through application of the Motor Vehicle Safety Act (MVSA) and regulations the standards with which motorcycle manufacturers and importers must comply in Canada. Each machine must bear a National Safety Mark (MVSA s.3) or Compliance Label (MVSA s.6) which warrant that the machine meets Canadian regulations given the use for which it is intended. The MVSA and Regulations are strictly applied and enforced by the Federal government.

(Pertinent portions of the act are shown in the appendix)

- Motorcycle - Definition (MVSA s.2)

. . . s.2. "Motorcycle means a vehicle having steering handlebars completely constrained from rotating in relation to the axle of one which in contact with the ground and designed to travel on

not more than three wheels in contact with the ground, but does not include competition motorcycles, minibikes or motor driven cycles" as amended in schedule C, Motor Vehicle Safety regulations, May 26, 1973.

Apart from the general application of the Motor Vehicle Safety Act and Regulations to motorcycles, specific standards have been established in a number of equipment areas i.e. Canadian Motor Vehicle Safety Standards, CMVSS.

CMVSS s. 108 Lighting

(i)	Headlamp	1 white
(ii)	Tail Lamp	1 red
(iii)	Stop Lamp	1 red
(iv)	License plate lamp	1 white
(v)	Reflex reflectors	3 class A red 2 class A amber
(vi)	Turn Signal Lamps	2 class b amber 2 class b red or amber

s.112 - Headlamp concealment
s.116 - Hydraulic Fluids
s.205 - Glazing material
s.1106 - Noise

(ii) Government Consultation

The MIIC consults regularly with Ministry of Transportation officials to ensure that it is abreast of new regulations and to assist where possible development of safe realistic standards.

It is recommended that all provincial governments work closely with the Federal government concerning development of safety regulations and that to ensure maximum safety and a degree of standardization that provincial regulations be developed in line with Federal standards.

F. Motorcycle Use and Safety

(i) Regulation of Use

Provincial governments under the authority of s.92, B.N.A.

Act regulate the "use" of Public streets and roads through administration of the Highway Traffic Act and Regulations. The motorcycle is defined and the permissible use areas for classes of motorcycles are outlined. For example, "minibikes" are not permitted on public roads, nor are competition or trail bikes which do not comply with the mechanized requirements of street legal machines. Both the machine and rider must be licensed according to provincial requirements for use on public streets or highways.

(ii) Rider Licensing

Licensing requirements and procedures for motorcyclists are somewhat inconsistent with safety and the general need to promote safety. In Ontario the procedure to obtain a license is as follows. If you are lucky you can practice on private property on a friend's machine before buying your own. But generally, a motorcycle is purchased, and the rider writes a simple examination which ensures he is aware of the general rules of the road. He makes an appointment for an examination at the nearest Department of Transport Test Centre and proceeds unlicensed and underpracticed to take this test. This can be a hazardous journey particularly when we consider congested urban traffic and the inexperienced rider. Should the applicant fail his drivers test he must negotiate his way home legally unqualified therefore certainly a hazard to himself and others. The licensing procedures assume; (1) the rider is qualified prior to testing without requiring that some form of driver education or practice has been taken; (2) motorcyclists must operate in a legal vacuum prior to completion of the requisite

test procedures; (3) that those administering driver tests are competent and qualified motorcycle riders themselves which in fact they generally are not.

Motorcyclists must function under a legislative disadvantage which apart from its discriminatory nature is an unrealistic attempt to keep accident statistics down without confronting the real problem. There is a real need for driver education and licensing procedures to complement each other, to ensure that before a rider is licensed he has in fact had safety training. While numerous motorcycle dealers operate short training sessions these neither meet the demand nor are they adequate training.

The Canada Safety Council, Ottawa with the assistance of professionals in motorcycle education is designing a comprehensive education program which is expected to be completed in the fall of 1973. It is suggested that this program be studied by all parties interested in promoting education and safety. The motorcycle industry is prepared to work with government and other interested agencies to implement driver education. We are currently studying this matter and suggest it would be responsible if government were to undertake a similar study.

It is the strong recommendation of the MIIC that provincial governments, and in particular Ontario undertake a study of current motorcycle licensing procedures and consider the development of driver education and safety programs to facilitate learning and licensing and to ensure that licensing is not an impediment to prospective motorcyclists.

It would be a benefit to society generally, particularly if a comprehensive program were developed to educate motorists at large thereby cultivating positive driving habits.

The following recommendations were submitted to the Minister of Transport, Ontario, the Honourable Gordon Carton, O.C. early in 1973. They have in fact been the recommendations of safety engineers for some years.

- (1) A learner's permit which would be restricted to daylight hours and be valid for only 90 days.
- (2) we further suggest that all learners be required to drive with headlights on at all times. It is a proven and accepted fact that motorcyclists with their lights on, in daylight, are clearly more visible than with lights off.
- (3) the temporary permit should not be issued unless the applicant has proven he has sound basic knowledge of the rules of the road.
- (4) No passengers should be permitted and the driver should be clearly marked as a learner, consider use of an "L" plate.

G. Motorcycle Driver Education Courses

Motorcycle driver education courses are generally unavailable. While various motorcycle dealers attempt to provide instruction their efforts are not as effective as would be a generally planned program perhaps co-ordinated between the Canada Safety Council and provincial safety leagues.

Motorcyclists represent a responsible portion of the population. Some 1,000,000 people are directly involved with motorcycling in Canada, be they riders, friends or spectators. This number is growing daily.

To date courses are available in Ottawa, at the Ottawa Carleton Safety Council; Vancouver, B.C. Safety Council. Some schools an example of which is Donhead Vocational in Richmond Hill, Ontario offer motorcycle training courses. It would teach safety and save lives if these programs were expanded where feasible.

H. Motorcycle Use Areas

Availability of suitable land for motorcycle use is inadequate. We believe that it is imperative that provincial and municipal authorities make available suitable areas, crown lands or other for motorcycle use. These lands should be designated for motorcycle use or use in conjunction with other activities consistent with each other. We urge private entrepreneurs to consider establishing recreational facilities for the growing sport of motorcycling. Interested businessmen are encouraged to inquire into the availability of low cost federal and provincial loans and grants for business purposes.

Expanded and organized use areas would greatly assist to control conditions and activities hence promote safety. Trails would be designed to minimize and avoid hazards.

Use areas would be controlled and patrolled by personnel to ensure compliance with safe operational practices and the law. Local motorcycle clubs and groups could be enlisted to assist in enforcement and to offer counselling to novice motorcyclists.

The "Use Areas" would be designed consistent with reasonable ecological requirements.

The cost of preparing and maintaining "Use Areas" might in part be defrayed by part of the registration fee and payment of a trail fee by users. Alternate means, i.e. - special assessments at registration might be considered as a fund raising means.

The Ministry of Natural Resources revealed on June 27, 1973 at a "Trails Symposium" a desire to work with clubs and organizations to develop an integrated provincial trail system for multiuse purposes. All trail activities must be consistent with the general aims of the program which the Ministry of Natural Resources will specifically define in the fall of

1973. The Department has indicated it will support local groups or clubs which initiate trail development and then together will plan the ground rules for its operation.

Areas should be developed closer to urban centres. The MIIC is attempting to identify available areas closer to city centres. We look forward to the assistance of government to complete this project.

I. Motorcycles and the Environment

Motorcycles emit little in the way of harmful exhaust emissions. They consume little gasoline and require little space. All new machines meet Federal noise standards established in 1972 at 86 dbs. and will be in the area of 80 in 1975. Noise is being decreased annually and should not be a complaint factor in 2 - 3 years.

The environment would be well served if conscientious driving habits were cultivated. It is felt by most authorities that the machines if properly driven would not constitute a noise problem.

Trail riders enjoy their sport because they love the outdoors. It is an immediate escape from the city and its pressures and fast becoming a popular pastime. Not everyone can afford the time or expense which weeks of mountain climbing or sailing would require but they can take a day off to enjoy the woods and exert themselves and their machines against the forces of nature. In some cases these activities are co-ordinated and consideration is given to impact on the environment. Efforts are being made to reduce noise at competition events by enforcement of strict standards. Motorcyclists are environment conscious.

J. Motorcycle Safety and Education

The MIIC supports safety programs, and will continue this practice. Distributors supply machines to all worthy efforts in order to promote safety and education.

In 1972 an Opportunity for Youth program whereby instructors from the Ottawa Carleton Safety Council toured Ontario giving motorcycle safety instruction in fourteen major centres. Machines and equipment were supplied by MIIC members.

The MIIC in conjunction with the Canada Safety Council is studying prospects for a motorcycle education program across Canada. Provinces will be asked to endorse and support driver education and safety. We do hope that Ontario will be a leader and lend its support to a safety program.

Pamphlets and brochures on safety are being prepared by the MIIC for distribution through dealer networks to the public. A poster outlining the need for motorcyclists to keep noise down to a minimum and which stressed the need to protect the environment was successfully distributed by the MIIC. Continued work is being pursued by the committee in this area.

Committee members are periodically invited to speak at schools throughout Canada to demonstrate safety techniques in motorcycling. Distributors encourage their dealers to take an active approach in their community to promote safety conscious drivers.

In conclusion, motorcycles are no more dangerous than the expertise of the rider will permit. The average motorcyclist is in his mid twenties and found in all walks of life, including politics. Most are appalled at the general lack of concern as manifested by provincial legislation, particularly in the areas of licensing and safety promotion. It is often said that motorcycles and motorcyclists are victims of unrealistic legislation whose basis is maintained and supported by the last of George Bernard Shaw's the three lies - - - the lie ... the damned lie ... and statistics. Statistics are valuable when analyzed in their entirety by experts able to draw realistic conclusions. An illustration of this

fact is presented in the appended paper prepared in 1967 by Mr. Stuart Munro, Chief Instructor, Ottawa Safety Council. While the statistics are out of date the basic principles are relevant and deserve careful consideration.

The MIIC believes that it has in its short past demonstrated a responsible attitude to cultivating safety consciousness among motorcyclists and drivers generally. We will continue this work in the future and offer support to government, persons, or organizations whose interest is to achieve safer motorcycling within a sensible and rational operational framework.

We are proud of our few achievements and are determined that our efforts will be of benefit to consumers, dealers, distributors, manufacturers and to the economy and social fabric of this country.

Submitted respectfully by the Motorcycle Industry Import Committee.

August 1973.

APPENDIX

MIIC BROCHURE

DISTRIBUTOR LIST

GRAPHIC OUTLINE OF ACCIDENT STATISTICS

SAFETY TIPS

MOTOR VEHICLE SAFETY ACT

A PAPER ON MOTORCYCLE SAFETY
The Deadliest Vehemence

MOTORCYCLE DISTRIBUTORS

F. Manley Corporation,
25 Lesmill Road,
Don Mills, Ontario.
(KAWASAKI)

Canadian Honda Motor Limited,
50 Emblem Court,
Agincourt, Ontario.
(HONDA)

Raymond Burke Motors,
P.O. Box 3401,
London, Ontario
(TRIUMPH)

Yamaha Motor Canada Limited,
1350 Verdun Place,
Richmond, B.C.
(YAMAHA)

Bentley's Cycles and Sports Ltd.,
255 Beaubien West,
Montreal, Quebec.
(GEMINI-COOPER)

Radco Sales Limited,
1095 Homer Street,
Vancouver, B.C.
(SUZUKI)

Suzuki Canada Limited,
155 St. Regis Crescent,
Downsview, Ontario
(SUZUKI)

Norton Villiers Canada Limited,
9001 Salley Street,
LaSalle, Quebec.
(NORTON)

Agri-Tech Inc.,
110 de Lauzon - Parc Industriel,
Boucherville, P.Q.

Bultaco Canada,
52 Portage Avenue,
Sudbury, Ontario.
(BULTACO)

Fred Deeley Limited,
595 West 7th Avenue,
Vancouver 9, B.C.
(TRIUMPH)

Jer-Di of Sarnia Limited,
714 Lite Street,
P.O. Box 611,
Point Edward, Ontario,
(OSSA)

Marquette Marketing Corp. Ltd.
204 Yorkland Blvd.,
Willowdale, Ontario.
(B.M.W.)

Nican Trading Co. Limited,
1010 Mainland Street,
Vancouver, B.C.
(KAWASAKI)

Norstar Cycle & Motor Division Ltd.
9950 Parkway Blvd.,
Ville d'Anjou, Quebec.
(DUCATI LAVERDA)

Clarke Simpkins Honda,
760 Alderbridge Way,
Richmond, B.C.
(HONDA)

CZ & Jawa Motors Canada Limited,
7600 Trans Canada Hwy.,
Montreal, Quebec.
(CZ JAWA)

Russell Winter & Co.
358 Danforth Avenue,
Toronto, Ontario
(HARLEY DAVIDSON)

Firth Motorcycle Limited,
1857 Danforth Avenue,
Toronto, Ontario.
(NORTON)

Harley Davidson Motor Corp. Inc.
3700 West Juneau Avenue,
Milwaukee, Wisconsin 53201
(HARLEY-DAVIDSON)

Ontario Motoski,
940 Brock Road South,
Pickering, Ontario.
(MOTOSKI)

SERVICE MEMBERS

GAC Private Brands Limited,
801 Eglinton Avenue West,
Suite 401,
Toronto, Ontario.

Marsh & McLennan Limited,
1 Place Ville Marie,
Montreal 113, Quebec.

ACCESSORY MEMBERS

Wally Hayes Limited,
423 E Grande Cote,
Rosemere, Quebec.

Joseph Lucas Canada (1971) Limited,
280 Yorkland Blvd.,
Toronto, Ontario.

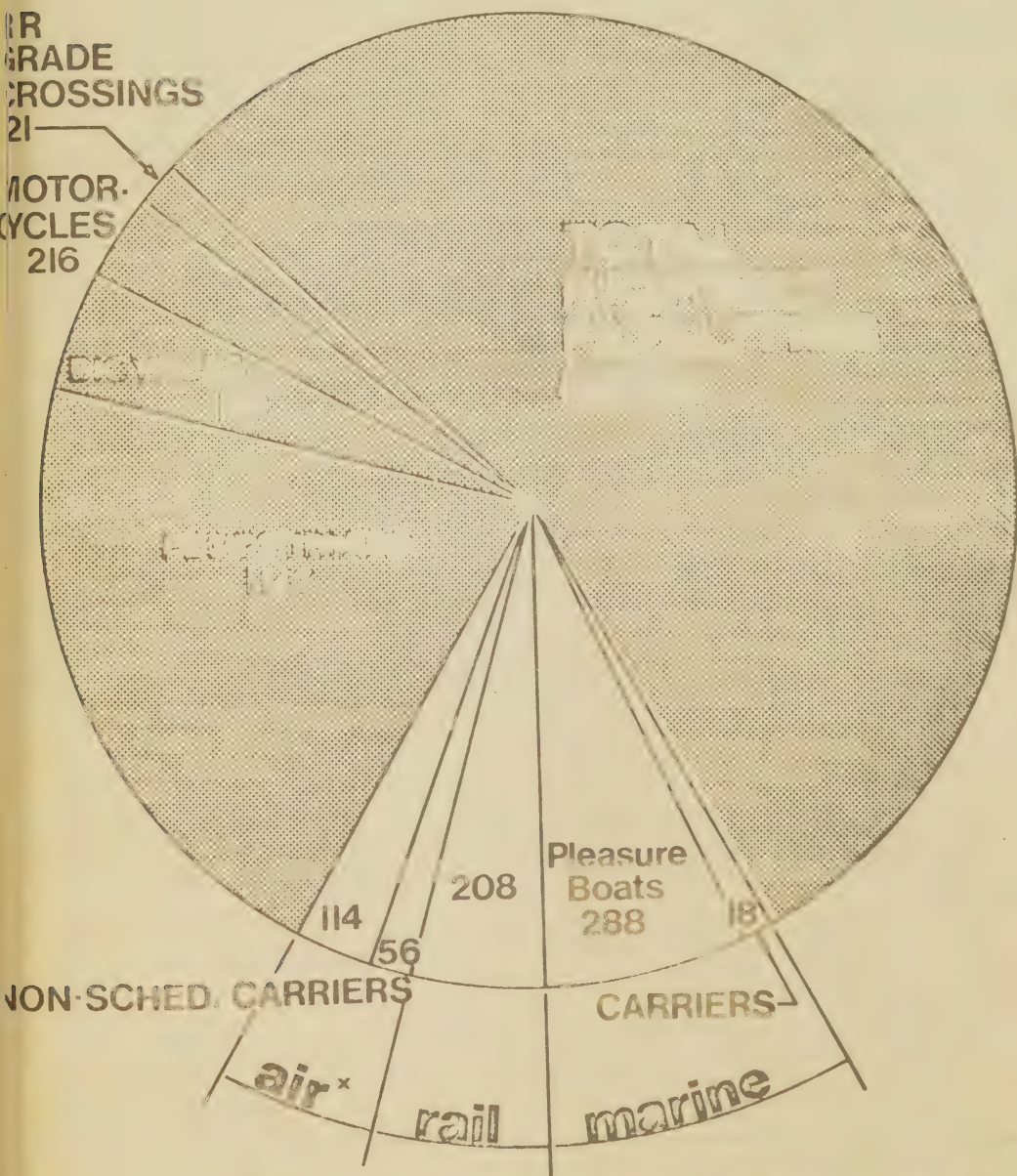
Performance Parts Warehouse Canada Limited,
2352 Midland Avenue,
Agincourt, Ontario.

Boyes & Rosser,
Motorcycle Division,
P.O. Box 846,
New Westminster, B.C.

CANADA

1971 TRANSPORTATION FATALITIES

total 6257



* NO FATALITIES ON SCHED. CARRIERS

Safety Tips, etc. for Motorcycling

1. A protective helmet is the cheapest kind of life insurance. Strapping on a helmet before riding should be as automatic as turning on the ignition key.
2. Check lights frequently to be sure they are operating properly. You never know when you may be caught out after dark.
3. Check tires weekly for proper inflation. Notice the way your tire is wearing. Uneven wearing is a sign of an improperly balanced wheel -- an unnecessary hazard.
4. A loose nut or bolt could cause a spill. Preventative maintenance is a must for the safe rider.
5. Be sure the bike is equipped with at least one rear view mirror. Knowing what is going on behind you is almost as important as knowing what is going on ahead of you.
6. Check the brakes regularly. Your life may depend on them. With the bike on the centerstand, balance the bike so that first one wheel and then the other is off the ground. Check one wheel at a time. (it may be necessary to put a block under the centerstand to get the wheels clear of the ground.) Spin each wheel. It should move freely and easily without dragging or friction. Apply the brake lightly while the wheel is spinning. It should stop promptly without any wobbling or side play. Repeat this process several times to be certain the brake doesn't stick.
7. Check the chain for proper adjustment and wear. A chain that jumps the sprocket in heavy traffic could put you in danger.
8. Keep the clutch well adjusted to prevent your bike from "creeping" at a red light. Adjustments are at the level and where the cable enters the housing. Also be wary of frayed cables.
9. Properly adjusted spokes not only provide a more comfortable ride, they also provide a safer ride.
10. Keep the brake pedal and gear shift lever where you can operate them without taking your feet off the pegs. Your rear brake should work with only a slight pressure from your foot.
11. Make sure the clutch and brake levers are at a straight angle from your arm and wrist. Having to reach up or down for a lever is not only unsafe, it is much more fatiguing.
12. Buying a used motorcycle requires greater caution than buying a new one. It is very important to check tires and tubes for wear when you buy a used cycle. After it has been ridden for 6 months, there is considerable wear on tires and tubes and should be checked at least twice a year for wear. Always replace worn tires and tubes.

Safety Tips, etc. for Motorcycling - continued

13. Always wear goggles or unbreakable glasses in good condition.
14. Proper foot and ankle support gives greater protection from burns, wrenched ankles or other discomforts. Lace-up boots are best.
15. A light jacket or sweater could save a lot of skin if you were to slip on a poorly paved street.
16. Never go riding with sunglasses only. If you are caught out after dark, your visibility will be dangerously reduced unless you have clear glasses or clear goggles.
17. When learning to ride, an instructor is an important person. Choose the best instructor you can get. One that is mature, experienced and patient.
18. Become so familiar with the controls of your bike BEFORE YOU START THE ENGINE that you KNOW where each control is and how it works without the need for second thinking.
19. The front wheel brake is operated with the lever on the right handlebar. The clutch is operated with the lever on the left handlebar.
20. Know how to turn on the reserve gas supply so that you will not run out of gas in high-speed traffic. The 3-position petcock has on, off and reserve positions.
21. The proper way to start a motorcycle is by straddling the machine, using body weight rather than merely a leg and "following through". Don't be afraid to put a little oomph in it.
22. When learning to ride, practice in low gear, starting and stopping, until you have it down perfectly before shifting into higher gears.
23. Be careful of the front wheel brake. It has about 70% of the stopping power on most bikes, but can also throw you if applied at the wrong time or in the wrong manner.
24. Gear shift patterns vary from model to model. Some shift up into higher gears while others shift down. Be sure you are familiar with the gear shift pattern on any machine before you ride it.
25. Lots of practice on uncongested streets before riding in traffic is very essential.
26. Turning is accomplished more by leaning in the direction you wish to go than by turning the handlebars. The distribution of body weight is employed rather than steering. Learning how far you can lean should be a gradual thing. Be particularly careful not to lean too far if the road is wet or if there is sand or gravel on the road. Don't brake while you are going through a turn. Slow down before you get into the turn.

Safety Tips, etc. for Motorcycling - continued

27. Pay attention to the surface of the road. Inattention combined with adverse road conditions often result in spills.
28. Always use hand signals. In this way other motorists will be aware of your intentions. This is not only good sense, it is the law.
29. Be sure you know all the rules in your province's driver handbook before you ride a motorcycle or drive an automobile.
30. Railroad and streetcar tracks are the nemesis of many a rider. No need to be afraid of them if you cross with caution.
31. Residential streets are full of potential problems for the cyclist: dogs, children, pedestrians, etc. Giving pedestrians the right of way is not only safe, it is also courteous.
32. Do not alter the exhaust system on your machine. Not only will you disturb others, your bike will not perform as well.
33. Slow down when you see a car backing out of a drive. The driver may not be able to see you and could pull into your path.
34. When you have a passenger riding with you, you have a great deal more responsibility. Your passenger's well being is in your hands. Not only is it your responsibility to be more cautious, you should also instruct your passenger on the proper way to sit on the bike, hold on to you and how to position his or her feet.
35. Improperly secured luggage can easily fall in your chain or spokes and cause an accident. Always be sure your pack is securely fastened.
36. Don't be tempted to park too close behind automobiles -- make sure the motorist can see your parked bike from his rear view mirror.
37. Always leave plenty of room between you and the vehicle ahead. Following too close cannot only result in an accident when the vehicle in front of you stops suddenly, but can also result in the car behind you putting you in a very dangerous "squeeze" or "sandwich" situation.
38. Always leave plenty of room to spare when you overtake a slower vehicle. Cutting back in front of the vehicle too closely is not only extremely rude, it is also extremely dangerous.
39. When slowing or stopping, tap your rear brake several times lightly so that your stop light will flash as a warning to the motorist behind you.
40. Obey speed limits -- it is illegal to do otherwise.
41. Riding in heavy wind can be more fatiguing because you must brace for sudden jolts or drafts. Always consider wind factors if you plan long drives. When group riding, do not ride directly side by side. The rider to the right should be slightly to the rear of the rider to the left.

(18) A seat belt assembly that provides passive occupant protection to the user of the assembly need not comply with the requirements of

(a) section 209 except for the requirements applicable to the webbing, hardware attachments and performance of the assembly; and

(b) subsection (5).

(19) A vehicle that is provided with a seat belt assembly that provides passive occupant protection to the user of the assembly need not comply with the requirements of subsections (6) to (8).

(20) Any occupant protection system that deploys in the event of a crash shall have a monitoring system equipped with a readiness indicator clearly visible to the driver, monitoring its own readiness, and indicating the readiness of the occupant protection system.

(21) A vehicle that meets the requirements of section 216 need not meet the requirements of the roll-over test referred to in subsection (1)."

4. The definition "seat belt assembly" in subsection 209(1) of Schedule D to the said Regulations is revoked.

[21-1-o]

(18) Une ceinture de sécurité assurant à qui l'utilise une protection passive de l'occupant n'a pas à être conforme aux prescriptions

a) de l'article 209, sauf en ce qui a trait aux prescriptions relatives aux sangles, aux pièces de fixation et à l'efficacité de la ceinture; et

b) du paragraphe (5).

(19) Un véhicule muni de ceintures de sécurité qui assurent à qui les utilise une protection passive de l'occupant n'a pas à être conforme aux prescriptions des paragraphes (6) à (8).

(20) Tout système de protection de l'occupant qui se déploie en cas de collision doit comporter un dispositif de surveillance muni d'un indicateur de fonctionnement bien visible pour le conducteur et qui renseigne sur son propre fonctionnement et celui du système de protection de l'occupant.

(21) Un véhicule conforme aux prescriptions de l'article 216 n'a pas à répondre aux exigences de l'essai de capotage visé au paragraphe (1)."

4. La définition de «ceinture de sécurité» donnée au paragraphe 209(1) de l'annexe D dudit règlement est abrogée.

[21-1-o]

DEPARTMENT OF TRANSPORT

MOTOR VEHICLE SAFETY ACT

Notice is hereby given, pursuant to section 9 of the Motor Vehicle Safety Act, that the Governor in Council proposes to make the annexed amendments to the Motor Vehicle Safety Regulations.

Section 1 of the annexed Schedule of amendments exempts motor-driven bicycles from the lighting requirements applicable to motorcycles.

Section 2 of the said Schedule increases the safety performance levels of lighting systems required by section 108 of Schedule D to the said Regulations and is proposed to be effective September 1, 1973.

Any manufacturer, distributor, importer or other interested persons may make representations to the Minister of Transport concerning the proposed amendments before July 1, 1973. All such representations must cite "Canada Gazette, Part I" and the date of publication of this notice.

Given at Ottawa, this 15th day of May, 1973

J. L. CROSS

Assistant Clerk of the Privy Council

Schedule

1. (1) The definition "motorcycle" in section 2 of the Motor Vehicle Safety Regulations is revoked and the following substituted therefor:

" "motorcycle" means a vehicle having steering handlebars completely constrained from rotating in relation to the axle of one wheel in contact with the ground and designed

MINISTÈRE DES TRANSPORTS

LOI SUR LA SÉCURITÉ DES VÉHICULES AUTOMOBILES

Avis est par les présentes donné en vertu des dispositions de l'article 9 de la Loi sur la sécurité des véhicules automobiles, que le gouverneur en conseil propose d'apporter les modifications ci-jointes au Règlement sur la sécurité des véhicules automobiles.

L'article 1 de l'annexe de modifications ci-jointe exempte les vélomoteurs des exigences d'éclairage prescrites pour les motocyclettes.

L'article 2 de ladite annexe améliore les caractéristiques des systèmes d'éclairage prévues à l'article 108 de l'annexe D dudit Règlement. Date d'entrée en vigueur proposée: le 1^{er} septembre 1973.

Tout fabricant, distributeur, importateur ou autre personne intéressée peut faire des observations au sujet du projet de modifications, en s'adressant au ministre des Transports avant le 1^{er} juillet 1973. Toutes ces observations doivent mentionner la «Gazette du Canada, Partie I» et la date de publication du présent avis.

Fait à Ottawa, le 15 mai 1973

Le greffier adjoint du Conseil privé

J. L. CROSS

Annexe

1. (1) La définition de «motocyclette» à l'article 2 du Règlement sur la sécurité des véhicules automobiles est abrogée et remplacée par ce qui suit:

« «motocyclette» désigne un véhicule ayant un guidon dont la rotation se transmet sans intermédiaire à l'axe d'une roue en contact avec le sol, conçu pour rouler sur au plus trois

to travel on not more than three wheels in contact with the ground, but does not include a competition motorcycle, minibike or a motor-driven cycle;"

(2) Section 2 of the said Regulations is further amended by adding thereto, immediately after the definition "motor-cycle" therein, the following definition:

"motor-driven cycle" means a vehicle having steering handlebars completely constrained from rotating in relation to the axle of one wheel in contact with the ground, designed to travel on not more than three wheels in contact with the ground, and having a motor that produces 5 brake horsepower or less;"

2. Section 108 of Schedule D to the said Regulations is revoked and the following substituted therefor:

"108. (1) Every vehicle shall be equipped with not less than the number of lamps and reflective devices and the items of associated equipment specified for that vehicle in Tables I and III to this section and such lamps, reflective devices and items of associated equipment shall be designed to meet the requirements of the standards referred to therein.

(2) Notwithstanding subsection (1),

(a) a truck tractor need not be equipped with turn signal lamps mounted on the rear if the turn signal lamps at or near the front are of double-faced construction and so located that they meet the requirements for double-faced turn signal lamps specified in SAE Standard J588d, "Turn Signal Lamps", (June 1966);

(b) a truck tractor need not be equipped with any rear side marker devices, rear clearance lamps or rear identification lamps;

(c) intermediate side marker devices are not required on vehicles of less than 30 feet in overall length;

(d) reflective material conforming to the requirements of Canadian Government Specifications Board Standard CGSB 62-GP-11p may be used for side reflex reflectors if that material, as used on the vehicle, meets the performance standards in Table I of SAE Standard J594e, "Reflex Reflectors", (March 1970);

(e) every turn signal operating unit on a passenger car, multipurpose passenger vehicle, truck or bus of less than 80 inches in overall width shall be self-cancelling;

(f) subject to subsection (3), every stop lamp on a vehicle shall meet the photometric minimum candlepower requirements for Class A red turn signal lamps specified in SAE Standard J575d, "Test for Motor Vehicle Lighting Devices and Components", (August 1967);

(g) every stop lamp and turn signal on a passenger car, multipurpose passenger vehicle, truck, trailer or bus of less than 80 inches in overall width shall have an effective projected illuminated area of not less than the effective area of Class B turn signal lamps as specified in SAE Standard J588d, "Turn Signal Lamps", (June 1966);

roues en contact avec le sol, mais ne comprend pas la motocyclette de compétition, la minimoto ni le vélomoteur;"

(2) L'article 2 dudit règlement est en outre modifié par l'insertion, immédiatement après la définition de «véhicule tout terrain», de ce qui suit:

«vélomoteur» désigne un véhicule ayant un guidon dont la rotation se transmet sans intermédiaire à l'axe d'une roue en contact avec le sol, conçu pour rouler sur au plus trois roues en contact avec le sol et muni d'un moteur qui produit une puissance au frein de 5 horsepower ou moins;"

2. L'article 108 de l'annexe D dudit règlement est abrogé et remplacé par ce qui suit:

«108. (1) Tout véhicule doit avoir au moins le nombre de feux, de dispositifs réfléchissants et de pièces d'équipement complémentaires spécifié pour ce véhicule aux tableaux I et III du présent article, et ces feux, dispositifs réfléchissants et pièces d'équipement complémentaires doivent être conçus de façon à répondre aux exigences des normes indiquées dans lesdits tableaux.

(2) Nonobstant les dispositions du paragraphe (1),

a) un camion-tracteur n'a pas à être équipé d'indicateurs de changement de direction arrière s'il est muni d'indicateurs de changement de direction du type à deux faces, placés à l'avant ou près de l'avant, de façon à satisfaire aux exigences relatives aux indicateurs de changement de direction à deux faces établies dans la norme J588d de la SAE, «Turn Signal Lamps» (juin 1966);

b) un camion-tracteur n'a pas à être équipé de feux de position et de cataphotes latéraux arrière, de feux de gabarit arrière ni de feux d'identification arrière;

c) les feux de position et de cataphotes latéraux intermédiaires ne sont pas nécessaires sur les véhicules de moins de 30 pieds de longueur hors tout;

d) un matériau réfléchissant conforme aux exigences de la norme ONGC 62-GP-11p de l'Office des normes du Gouvernement canadien peut être utilisé pour la fabrication des cataphotes latéraux pourvu que ce matériau, tel qu'il est utilisé sur le véhicule, satisfasse aux normes d'efficacité prescrites au tableau I de la norme J594e de la SAE, «Reflex Reflectors» (mars 1970);

e) dans les voitures de tourisme, les véhicules de tourisme à usages multiples, les camions et les autobus de moins de 80 pouces de largeur hors tout, le dispositif actionnant les indicateurs de changement de direction doit s'arrêter automatiquement;

f) sous réserve des dispositions du paragraphe (3), les feux de freinage de tout véhicule doivent être conformes aux exigences d'intensité lumineuse minimale établies pour les indicateurs de changement de direction rouges de la classe A dans la norme J575d de la SAE, «Test for Motor Vehicle Lighting Devices and Components» (août 1967);

g) les feux de freinage et les indicateurs de changement de direction des voitures de tourisme, des véhicules de tourisme à usages multiples, des camions, des remorques et des autobus de moins de 80 pouces de largeur hors tout, doivent avoir une surface éclairée efficace au moins égale à celle qui est prescrite pour les indicateurs de changement de direction de la classe B dans la norme J588d de la SAE, «Turn Signal Lamps» (juin 1966);

TABLE III

Equipment

Passenger Cars; Multipurpose Passenger Vehicles, Trucks, Trailers and Buses of Less Than 80 Inches Overall Width; and Motorcycles

Item	Number required on			In accordance with SAE Standard or Recommended Practice ¹
	Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses	Trailers	Motorcycles	
Headlamps	2 white, 7-inch, Type 2 headlamp units; or 2 white, 5½ inch, Type 1 headlamp units and 2 white, 5½-inch, Type 2 headlamp units.		1 white	J580a, June 1966, J579a, August 1965 and J566, January 1960 J564a, April 1964, J565b, Feb 1969 J584, April 1964 and J566, January 1960
Tail lamps	2 red	2 red	1 red	J583c, June 1966
Stop lamps	2 red	2 red	1 red	J586b, June 1966 J575d, Aug 1967
Licence plate lamp	1 white	1 white	1 white	J587d, March 1969
Parking lamps	2 white or amber			J222, December 1970
Reflex reflectors	4 Class A red; 2 Class A amber	4 Class A red; 2 Class A amber	3 Class A red; 2 Class A amber	J994e, March 1970
Intermediate side marker lamps	2 amber	2 amber		J592c, November 1968
Intermediate side reflex reflectors	2 Class A amber	2 Class A amber		J994e, March 1970
Side marker lamps	2 red; 2 amber	2 red; 2 amber		J592c, November 1968
Back-up lamp	1 white			J593c, February 1968
Turn signal lamps	2 Class A red or amber; 2 Class A amber	2 Class A red or amber	2 Class B amber; 2 Class B red or amber	J588d, June 1966
Turn signal operating unit	1		1	J589, April 1964
Turn signal flasher	1		1	J590b, October 1965
Vehicular hazard warning signal operating unit	1			J910, January 1966
Vehicular hazard warning signal flasher	1			J945, February 1966

¹SAE Standards and Recommended Practices referred to in SAE Standards and Recommended Practices listed are those published in the 1970 edition of the SAE Handbook.

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MOTOR VEHICLE SAFETY ACT

Motor Vehicle Safety Regulations

P.C. 1970-1944

6 November, 1970

His Excellency the Governor General in Council, on the recommendation of the Minister of Transport, pursuant to the Motor Vehicle Safety Act, is pleased hereby to make the annexed Regulations respecting Safety for Motor Vehicles and Motor Vehicle Components, effective January 1, 1971, except for paragraphs (1) (e) and (f) and subsection (5) of section 1201, sections 1209 and 1210 of Schedule "F", which shall be effective April 1, 1971, paragraphs (1) (a) to (d), subsections (2) to (4) and subsection (6) of section 1201, sections 1202 to 1206 of Schedule "F", which shall be effective February 1, 1972.

REGULATIONS RESPECTING SAFETY FOR MOTOR VEHICLES AND MOTOR VEHICLE COMPONENTS

Short Title

1. These Regulations may be cited as the *Motor Vehicle Safety Regulations*.

Interpretation

2. In these Regulations,

"Act" means the *Motor Vehicle Safety Act*;

"all-terrain vehicle" means a wheeled or tracked vehicle designed for the transportation of property or equipment exclusively on marshland, open country, or other unprepared surfaces, but does not include a snowmobile or work vehicle;

"approved" means approved by the Minister;

"assembler" means a manufacturer engaged in the business of altering vehicles that bear the national safety mark;

"bus" means a vehicle having a designated seating capacity of more than ten, but does not include a trailer;

"bus trailer" means a vehicle having a designated seating capacity of more than ten and designed primarily to be drawn behind another vehicle;

"chassis-cab" means a vehicle consisting of a chassis that is capable of being driven, drawn or self-propelled, upon which may be mounted a cab, and that is designed to receive

(a) a passenger-carrying or cargo-carrying body including a body that incorporates a prime mover, or

(b) a work-performing or load-drawing structure including a fifth-wheel coupling;

LOI SUR LA SÉCURITÉ DES VÉHICULES AUTOMOBILES

Règlement sur la sécurité des véhicules automobiles

C.P. 1970-1944

6 novembre 1970

Sur avis conforme du ministre des Transports et en vertu de la Loi sur la sécurité des véhicules automobiles, il plaît à Son Excellence le Gouverneur général en conseil d'édicter le Règlement concernant la sécurité des véhicules automobiles et de leurs pièces, ci-après. Le nouveau règlement entre en vigueur le 1^{er} janvier 1971, sauf les alinéas (1)e) et f) et le paragraphe (5) de l'article 1201 ainsi que les articles 1209 et 1210 de l'annexe «F», qui entreront en vigueur le 1^{er} avril 1971, les alinéas (1)a) à d), les paragraphes (2) à (4) et le paragraphe (6) de l'article 1201 ainsi que les articles 1202 à 1206 de l'annexe «F», qui entreront en vigueur le 1^{er} février 1972.

RÈGLEMENT CONCERNANT LA SÉCURITÉ DES VÉHICULES AUTOMOBILES ET DE LEURS PIÈCES

Titre abrégé

1. Le présent règlement peut être cité sous le titre: *Règlement sur la sécurité des véhicules automobiles*.

Interprétation

2. Dans le présent règlement,

«approuvé» signifie approuvé par le Ministre;

«autobus» désigne un véhicule ayant un nombre désigné de places assises supérieur à dix, mais ne comprend pas une remorque;

«camion» désigne un véhicule conçu essentiellement pour le transport de biens et d'équipements, mais ne comprend pas un châssis, un véhicule sur chenilles, une remorque, un véhicule de travail ni un véhicule conçu pour se déplacer exclusivement hors route;

«catégorie prescrite» désigne une catégorie de véhicule mentionnée à l'annexe C;

«chariot de conversion» désigne un châssis de conversion muni d'un ou de plusieurs essieux, d'un attelage pivotant et d'une barre d'attelage;

«châssis» désigne un véhicule constitué d'un châssis sur lequel il est possible d'installer une cabine, qui peut être conduit ou tiré ou mû par son propre moteur et qui est conçu pour recevoir

a) une carrosserie pour le transport des passagers ou des marchandises, y compris une carrosserie munie d'une machine motrice, ou

b) un dispositif mécanique de travail ou un appareil pour tirer des charges, y compris un attelage pivotant

"CMVSS" is an abbreviation for Canada Motor Vehicle Safety Standard;

"competition car" means a four-wheeled vehicle designed for use exclusively on racing circuits;

"CSA" means the Canadian Standards Association;

"curb weight" means the weight of a vehicle with standard equipment and carrying its maximum capacity of fuel, oil and coolant and includes the weight of any air-conditioning equipment on the vehicle and the amount by which the weight of any optional engine with which the vehicle is equipped exceeds the weight of the standard engine;

"designated seating capacity" means, with reference to a vehicle, the number of designated seating positions provided in that vehicle;

"designated seating position" means any plan view position intended by the manufacturer to provide seating accommodation for a person at least as large as a 5th percentile adult female, as defined in section 100 of Schedule D, but does not include any plan view position of temporary or folding jump seats or other auxiliary seating accommodation;

"distributor" means a person engaged in the business of selling to other persons, for the purpose of resale, vehicles manufactured in Canada and obtained directly from a manufacturer or his agent;

"driver" means the occupant of a vehicle seated immediately behind the steering control system;

"importer" means a person engaged in the business of importing vehicles into Canada;

"inspector" means a person designated by the Minister pursuant to section 10 of the Act;

"manufacturer" means a person engaged in the business of manufacturing vehicles;

"Minister" means the Minister of Transport;

"mobile home" means a vehicle that is more than 102 inches in overall width and that is designed to be drawn behind another vehicle and to be used as a living or working accommodation unit;

"motorcycle" means a vehicle having steering handlebars completely constrained from rotating in relation to the axle of one wheel in contact with the ground and designed to travel on not more than three wheels in contact with the ground;

"multipurpose passenger vehicle" means a vehicle having a designated seating capacity of ten or less that is constructed either on a truck-chassis or with special features for occasional off-road operation, but does not include an air cushion vehicle, all-terrain vehicle, golf cart, passenger car or truck;

"occupant" means a person or manikin seated in a vehicle and unless otherwise specified means a person or manikin having the dimensions and weight of a 95th percentile adult male, as defined in section 100 of Schedule D;

"overall width" means the nominal design dimension of the widest part of the vehicle with doors and windows closed and wheels in the straight ahead position, exclusive of signal lamps, marker lamps, outside rearview mirrors, flexible fender extensions and mud flaps;

"conducteur" désigne l'occupant d'un véhicule qui est assis à l'appareil de commande;

"CSA" désigne la «Canadian Standards Association»;

"distributeur" désigne une personne dont l'entreprise consiste à vendre à des revendeurs des véhicules fabriqués au Canada qu'elle obtient directement d'un fabricant ou de son agent ou mandataire;

"fabricant" désigne une personne dont l'entreprise consiste à fabriquer des véhicules;

"frein de service" désigne le mécanisme principal conçu pour arrêter un véhicule;

"importateur" désigne une personne dont l'entreprise consiste à importer des véhicules au Canada;

"inspecteur" désigne une personne nommée par le Ministre en vertu de l'article 10 de la Loi;

"largeur hors tout" désigne la dimension nominale de la partie la plus large d'un véhicule dont les portes et les glaces sont fermées et les roues orientées parallèlement à son axe longitudinal, indépendamment des feux clignotants, des feux de position latéraux, des rétroviseurs extérieurs, des prolongements d'aile flexibles et des pare-boue;

"Loi" désigne la Loi sur la sécurité des véhicules automobiles;

"maison roulante" désigne un véhicule de plus de 102 pouces de largeur hors tout, conçu pour être traîné par un autre véhicule et servir d'habitation ou de lieu de travail;

"Ministre" désigne le ministre des Transports;

"monteur" désigne un fabricant dont le travail consiste à modifier des véhicules portant la marque nationale de sécurité;

"motocyclette" désigne un véhicule ayant un guidon dont la rotation se transmet sans intermédiaire à l'axe d'une roue en contact avec le sol, conçu pour rouler sur au plus trois roues en contact avec le sol;

"motoneige" désigne un véhicule d'un poids maximal de 1,000 livres, conçu essentiellement pour se déplacer sur la neige, muni d'un ou de plusieurs skis de direction et entraîné par une ou plusieurs courroies sans fin en contact avec le sol et comprend un véhicule convertible en motoneige;

"nombre désigné de places assises" désigne, par rapport à un véhicule, le nombre prévu de places assises désignées dans ce véhicule;

"NSVAC" est le sigle pour Normes de sécurité des véhicules automobiles du Canada;

"numero d'identification du véhicule" désigne un numéro formé de chiffres arabes, de caractères romains ou des deux, que le fabricant attribue à un véhicule à des fins d'identification;

"occupant" désigne une personne ou un mannequin assis dans un véhicule et dont les dimensions et le poids, à moins d'indication contraire, correspondent à ceux du 95^e percentile adulte du sexe masculin, tel qu'il est défini à l'article 100 de l'Annexe D;

"place assise désignée" s'entend de tout espace indiqué sur un plan et prévu par le fabricant pour permettre d'asseoir une personne dont les dimensions et le poids correspondent au moins à ceux du 5^e percentile adulte du sexe féminin, tel qu'il est défini à l'article 100 de l'annexe B, mais ne s'applique pas aux espaces indiqués sur un plan et prévus pour des sièges d'usage provisoire ou strapontins ou pour d'autres places assises auxiliaires;

"passenger car" means a vehicle having a designated seating capacity of ten or less, but does not include an all-terrain vehicle, competition car, multipurpose passenger vehicle, motorcycle, truck or trailer;

"pole trailer" means a vehicle designed to be drawn behind another vehicle by means of a reach or pole, or by being boomed or otherwise secured to the towing vehicle, for the purpose of transporting poles, pipes, structural members or other long or irregularly shaped loads capable generally of sustaining themselves as beams between the supporting connections;

"prescribed class" means a class of vehicle listed in Schedule C;

"SAE" means the Society of Automotive Engineers, Inc.;

"service brake" means the primary mechanism designed to stop a vehicle;

"snowmobile" means a vehicle of not more than 1000 pounds weight designed primarily for travel on snow, having one or more steering skis and driven by means of an endless belt or belts in contact with the ground, and includes a snowmobile conversion vehicle;

"snowmobile conversion vehicle" means a vehicle designed to be capable of conversion to a snowmobile by the re-positioning or addition of parts;

"snowmobile cutter" means a sleigh designed to be drawn behind a snowmobile;

"trailer" means a vehicle designed for carrying or accommodating persons or property and to be drawn behind another vehicle, and includes a bus trailer and pole trailer, but does not include a mobile home, trailer converter dolly or any earth-moving equipment or implement of farm husbandry;

"trailer converter dolly" means a conversion chassis equipped with one or more axles, a lower half of a fifth-wheel coupling and a drawbar;

"truck" means a vehicle designed primarily for the transportation of property or equipment, but does not include a chassis-cab, crawler-mounted vehicle, trailer, work vehicle or a vehicle designed for operation exclusively off the public highway;

"vehicle" means a motor vehicle;

"vehicle identification number" means a number consisting of arabic numerals, roman letters, or both that the manufacturer assigns to the vehicle for identification purposes; and

"work vehicle" means a vehicle designed primarily for the performance of work in the construction of works of civil engineering and in maintenance, that is not constructed on a truck-chassis or truck-type chassis, but does not include a tractor or any vehicle designed primarily to be drawn behind another vehicle.

«poids à vide» désigne le poids d'un véhicule à équipement standard et portant sa pleine capacité de carburant, d'huile et de liquide de refroidissement, y compris le poids du tout climatiseur adapté au véhicule ainsi que l'excédent de poids d'un moteur installé au choix, par rapport au poids d'un moteur standard;

«remorque» désigne un véhicule conçu pour transporter ou abriter des personnes ou des biens et pour être traîné par un véhicule automobile, et s'applique à une remorque-autobus et à une remorque pour charges longues, mais non à une maison roulante, à un chariot de conversion, au matériel de terrassement ni à un instrument aratoire;

«remorque-autobus» désigne un véhicule ayant un nombre désigné de places assises supérieur à dix, conçu pour être traîné par un autre véhicule;

«remorque pour charges longues» désigne un véhicule conçu pour être traîné par un autre véhicule au moyen d'une barre d'assemblage ou d'un timon ou pour être attaché ou autrement fixé au véhicule remorqueur, utilisé pour le transport de charges longues ou de forme irrégulière comme les poteaux, les tuyaux, les pièces de charpente et autres articles pouvant généralement se maintenir comme des poutres placées entre des points d'appui;

«SAE» désigne la Society of Automotive Engineers, Inc.;

«traîneau de motoneige» désigne un traîneau conçu pour être traîné par une motoneige;

«véhicule» désigne un véhicule automobile;

«véhicule convertible en motoneige» désigne un véhicule qui peut être converti en motoneige par le déplacement et l'addition de pièces;

«véhicule de tourisme à usages multiples» désigne un véhicule dont le nombre désigné de places assises est de dix ou moins, monté sur un châssis de camion ou ayant des éléments caractéristiques spéciaux pour rouler occasionnellement hors route, mais ne comprend pas un véhicule à coussin d'air, un véhicule tout terrain, une voiture de golf, une voiture de tourisme ni un camion;

«véhicule de travail» désigne un véhicule conçu principalement pour accomplir des travaux de génie civil et d'entretien et qui n'est monté ni sur un châssis de camion ni sur un châssis type camion, mais ne s'applique pas à un tracteur ni à d'autres véhicules conçus essentiellement pour être traînés par un autre véhicule;

«véhicule tout terrain» désigne un véhicule sur roues ou sur chenilles, conçu pour se déplacer sur des surfaces non préparées, telles que la rase campagne ou les terrains marécageux, mais ne comprend pas une motoneige ni un véhicule de travail;

«voiture de compétition» désigne un véhicule à quatre roues conçu pour servir exclusivement à la course sur circuit; et

«voiture de tourisme» désigne un véhicule dont le nombre désigné de places assises est de dix ou moins, mais ne comprend pas un véhicule tout terrain, une voiture de compétition, un véhicule de tourisme à usages multiples, une motocyclette, un camion ni une remorque.

National Safety Mark

3. (1) Where the national safety mark is affixed to a vehicle it shall be

(a) in the form set out in Schedule A and affixed only by a person authorized by the Minister; and

Marque nationale de sécurité

3. (1) Lorsqu'elle est apposée à un véhicule, la marque nationale de sécurité doit

a) être en la forme indiquée à l'annexe A et être apposée par une personne autorisée par le Ministre; et

(b) indelibly and permanently affixed by the person authorized for that purpose on each vehicle of a prescribed class, in such manner as not to be removable except by the destruction or defacing of the mark.

(2) A three digit number shall be assigned by the Minister to each person authorized to affix the national safety mark, which number shall appear in the space provided in the centre of the national safety mark.

(3) The National Safety Mark shall have a diameter of at least one inch and shall be of the proportions shown in Schedule A.

(4) The authorization referred to in paragraph (1)(a) shall be in the form set out in Schedule B.

4. (1) Subject to subsections (2), (3) and (4), the national safety mark shall be affixed to the hinge pillar, door latch post, or door edge that meets the door latch post, next to the driver's seating position, or if such locations are impracticable, to the left side of the instrument panel, and in all cases adjacent to the applicable statement of compliance label referred to in section 6, or in any other approved location.

(2) In the case of a trailer the location of the national safety mark shall be on the forward half of the left side of the trailer so that it is easily readable from outside the vehicle without moving any part thereof.

(3) In the case of a motorcycle the location of the national safety mark shall be on a permanent part of the vehicle as close as is practicable to the intersection of the steering post with the handle-bars so that it is easily readable without moving any part of the vehicle except the steering system.

(4) In the case of a snowmobile or a snowmobile cutter the location of the national safety mark shall be on the rear half of the right side of the snowmobile or snowmobile cutter so that it is easily readable from outside the vehicle without moving any part thereof.

(5) The national safety mark shall not be affixed to any vehicle that does not bear the applicable statement of compliance label referred to in section 6.

(6) No manufacturer, assembler, distributor or importer shall remove the national safety mark from any vehicle unless

(a) that vehicle has been sold for purposes other than resale; or

(b) the mark is removed solely for the purpose of repairing the vehicle and is re-affixed immediately after the repair of the vehicle is completed.

5. No person shall use a national safety mark or a facsimile thereof in advertising or other promotion except as approved

Statement of Compliance

6. (1) Subject to subsections (2), (3) and (4), and as a condition of the use of the national safety mark on a vehicle, a label bearing in indelible lettering a statement of compliance lettered in a colour that contrasts with the background colour of the label shall be permanently affixed by the manufacturer of the vehicle to the same surface of the vehicle as that to which the national safety mark is to be affixed, and the lettering shall state in block capitals and numerals not less than three thirty seconds of an inch in height,

b) dans le cas de tout véhicule d'une catégorie prescrite, être apposée de façon indélébile et inamovible par la personne autorisée à cette fin, de telle sorte qu'il soit impossible de l'enlever sans la détruire ou l'endommager.

(2) Le Ministre attribue à chaque personne autorisée à apposer la marque nationale de sécurité un numéro de trois chiffres qui doit figurer dans l'espace prévu à cette fin au centre de la marque nationale de sécurité.

(3) Le cercle extérieur de la marque nationale de sécurité doit avoir un diamètre d'au moins un pouce et doit avoir la forme et les proportions indiquées dans l'annexe A.

(4) L'autorisation mentionnée à l'alinéa (1) a) doit être en la forme indiquée à l'annexe B.

4. (1) Sous réserve des paragraphes (2), (3) et (4), la marque nationale de sécurité doit être apposée sur le montant de la porte, au montant entrée de porte ou à l'extrémité de la porte correspondant au montant entrée de porte, du côté du conducteur, ou, s'il n'est pas possible de l'apposer à l'un de ces endroits, du côté gauche du tableau de bord et, dans tous les cas, à côté de l'étiquette de conformité prescrite à l'article 6, ou à tout autre endroit approuvé.

(2) Dans le cas d'une remorque, la marque nationale de sécurité doit être apposée sur la moitié avant du côté gauche de la remorque de sorte qu'il soit possible de lire facilement l'inscription de l'extérieur sans déplacer aucune pièce de la remorque.

(3) Dans le cas d'une motocyclette, la marque nationale de sécurité doit être apposée sur une partie fixe du véhicule, aussi près que possible de l'intersection des montants de direction et du guidon, de sorte qu'il soit possible de lire facilement l'inscription sans déplacer aucune pièce du véhicule, à l'exception du système de direction.

(4) Dans le cas d'une motoneige ou d'un traineau de motoneige, la marque nationale de sécurité doit être apposée sur la moitié arrière du côté droit de la motoneige ou du traineau de motoneige, de sorte qu'il soit facile, au dehors, de lire l'inscription sans déplacer aucune pièce du véhicule.

(5) La marque nationale de sécurité ne doit pas être apposée à un véhicule qui ne porte pas l'étiquette de conformité prescrite à l'article 6.

(6) Il est interdit à tout fabricant, monteur, distributeur ou importateur d'enlever la marque nationale de sécurité apposée sur un véhicule, à moins que

a) ce véhicule n'ait été vendu à d'autres fins que la revente; ou que

b) la marque ne soit enlevée seulement pour permettre de réparer le véhicule et ne soit apposée de nouveau, immédiatement après que la réparation du véhicule est terminée.

5. Il est interdit d'utiliser une marque nationale de sécurité ou un fac-similé de celle-ci à des fins publicitaires ou autres fins semblables, sauf de la manière approuvée.

Déclaration de conformité

6. (1) Sous réserve des paragraphes (2), (3) et (4) et comme condition préalable à l'apposition de la marque nationale de sécurité sur un véhicule, le fabricant du véhicule doit apposer d'une façon inamovible à l'endroit où la marque nationale de sécurité doit être fixée sur le véhicule une étiquette portant une déclaration de conformité inscrite d'une manière indélébile et d'une couleur faisant contraste avec celle du fond de l'étiquette. En outre, l'inscription doit comprendre, en capitales d'imprimerie et en chiffres d'au moins trois trente-deuxièmes de pouce de haut,

(5) A warning to the driver of the vehicle shall be activated whenever the key referred to in subsection (2) has been left in the locking system and the driver's door is opened but the warning need not be activated

(a) after the key has been manually withdrawn to a position from which it may not be turned;

(b) when the locking system is in the ON or START position; or

(c) after the key has been inserted in the locking system and before it has been turned.

Vehicle Identification Number

115. (1) Every passenger car shall have a vehicle identification number and the identification numbers of two vehicles manufactured by a manufacturer within a ten year period shall not be identical.

(2) The vehicle identification number of each passenger car shall be

(a) sunk into or embossed upon

(i) any part of the vehicle other than the glazing that is not designed to be removed except for repair, or

(ii) a separate plate that is permanently affixed to the part referred to in subparagraph (i);

(b) located inside the passenger compartment; and

(c) readable without moving any part of the vehicle, through the vehicle glazing under daylight lighting conditions by an observer having 20/20 vision Snellen whose eye-point is located outside the vehicle adjacent to the left windshield pillar.

Hydraulic Brake Fluid

116. All non-petroleum base hydraulic brake fluid with which the hydraulic brake systems of any vehicle are operated shall meet the requirements of SAE Standard J1702a Motor Vehicle Brake Fluid—Arctic, (April 1968), or SAE Standard J1703a Motor Vehicle Brake Fluid, (April 1968).

PART III

Head Impact Area

200. In this Part,

"head impact area" means the non-glazed surfaces of the interior of the vehicle that are statically contactable by the head form of a measuring device in accordance with the following procedure or its graphic equivalent:

(a) at each designated seating position, by placing the pivot point of the measuring device,

(i) for seats that are adjustable fore and aft at

(A) the seating reference point; and

(B) a point 5 inches horizontally forward of the seating reference point displaced vertically 0.75 inch or a distance equal to the rise that results from a 5 inch forward adjustment of the seat; and

(ii) for seats that are not adjustable fore and aft, at the seating reference point;

(b) with the pivot point to top-of-head dimension at each value allowed by the device and the interior dimensions of the vehicle, by determining all contact points above the lower windshield glass line and forward of the seating reference point; and

(5) Un dispositif d'avertissement du conducteur doit être mis en action lorsque la clé mentionnée au paragraphe (2) est laissée dans le système de verrouillage et que la porte côté conducteur est ouverte, mais ce dispositif n'a pas à être actionné

a) après que la clé est retirée manuellement à une position de laquelle elle ne peut plus tourner;

b) lorsque le système de verrouillage à clé se trouve en position ALLUMAGE (ON) ou en position DÉMARRAGE (START); ou

c) après que la clé a été insérée dans le système de verrouillage et avant qu'elle soit tournée.

Numéro d'identification du véhicule

115. (1) Toute voiture de tourisme doit avoir un numéro d'identification, et il est interdit à un fabricant d'utiliser le même numéro d'identification pour deux véhicules produits à moins de dix ans d'intervalle.

(2) Le numéro d'identification d'une voiture de tourisme doit

a) figurer en creux ou en relief

(i) sur une partie du véhicule autre que les vitrages, qui ne soit pas conçue pour être enlevée sauf pour réparation, ou

(ii) sur une plaque distincte fixée de façon inamovible sur une partie du véhicule décrite au sous-alinéa (i);

b) placé à l'intérieur du compartiment des passagers; et

c) être lisible sans qu'il soit nécessaire de déplacer une partie quelconque du véhicule, à travers la surface vitrée du véhicule et à la lumière du jour, pour un observateur ayant une vision de 20/20, échelle Snellen, et dont le point de vision se trouve à l'extérieur du véhicule, à proximité du montant gauche du pare-brise.

Fluide hydraulique des freins

116. Tout fluide hydraulique utilisé pour actionner les systèmes de freinage du véhicule doit être conforme à la normes J1702a de la SAE, «Motor Vehicle Brake Fluid-Arctic» (avril 1968), ou à la norme J1703a de la SAE, «Motor Vehicle Brake Fluid» (avril 1968).

PARTIE III

Zone d'impact de la tête

200 Dans la présente partie,

«appareil de mesure» désigne un appareil formé d'une tête factice sphérique de 6.5 pouces de diamètre reliée à un pivot, la distance entre le pivot et le sommet de la tête factice étant infiniment réglable de 29 à 33 pouces; et

«zone d'impact de la tête» désigne les surfaces non vitrées de l'intérieur du véhicule, avec lesquelles la tête factice d'un appareil de mesure peut entrer en contact d'après la méthode ci-après ou sa représentation graphique:

a) à chaque place assise désignée, placer le pivot de l'appareil de mesure,

(i) pour les sièges réglables,

(A) au point de référence de position assise; et

(B) à un point situé à une distance horizontale de 5 pouces devant le point de référence de position assise, déplacé verticalement de 0.75 pouce ou jusqu'au niveau qu'il atteint lorsque le siège est avancé de 5 pouces; et

(a) the name of

(i) the company that manufactured the vehicle, if it was manufactured by a company, or, if it was manufactured by a partnership or individual, the usual name under which the partnership or individual carries on business, or

(ii) the company authorized to affix the national safety mark to the vehicle, if a company is so authorized, or, if a partnership or individual is so authorized, the usual name under which the partnership or individual carries on business;

(b) the month and year during which work on the vehicle was completed at the place of main assembly;

(c) that the vehicle conforms to all applicable federal motor vehicle safety standards in effect on the date of its manufacture; and

(d) the vehicle identification number.

(2) In the case of a multipurpose passenger vehicle the lettering shall also state that the vehicle is a multipurpose passenger vehicle.

(3) In the case of a chassis-cab,

(a) in lieu of the lettering referred to in paragraph (1) (c), the lettering shall state that the chassis-cab conforms to the applicable federal motor vehicle safety standards in effect on the date of its manufacture and shall list the standards numbers of the standards to which the chassis-cab conforms in full, and

(b) the compliance label referred to in subsection (1) may be temporarily affixed at a location not adjacent to the location at which the national safety mark is to be affixed, so as to be easily readable and protected against any weather conditions to which it may be exposed.

(4) Except in the case of a vehicle to which section 10 applies, a vehicle that complies with subsection 108A(2) or 111A(2) of Schedule D shall have the words "Canada alternative" immediately preceding the reference to federal motor vehicle safety standards in the statement referred to in paragraph (1) (c), in block capitals not less than three-sixteenths of an inch in height.

7. Where an assembler completes the manufacture of a vehicle from a chassis-cab bearing the national safety mark, he shall,

(a) comply with the requirements of the safety standards set out in Schedule D that are applicable, in respect of the work carried out by him, to the vehicle so completed; and

(b) permanently affix the statement of compliance label, referred to in section 6, in respect of the completed vehicle, to the same surface of the vehicle as that to which the national safety mark is affixed and adjacent thereto.

Records

8. Every manufacturer, assembler, distributor and importer of vehicles, and every manufacturer, distributor and importer of vehicle components for delivery to a manufacturer, shall establish and maintain such records of testing conducted by or on behalf of the manufacturer or assembler as will enable an inspector to determine whether such vehicles or vehicle components comply with these Regulations.

Importation

9. (1) Subject to subsection (4), no person shall import into Canada any vehicle of a class for which safety

a) le nom sous lequel fait affaire

(i) la compagnie, la société ou le particulier qui a fabriqué le véhicule, selon les cas, ou

(ii) la compagnie, la société ou le particulier, selon les cas, qui est autorisé à apposer la marque nationale de sécurité sur le véhicule;

b) le mois et l'année pendant lesquels les travaux d'assemblage du véhicule ont été achevés à la chaîne de montage principale;

c) une déclaration établissant que le véhicule est conforme à toutes les normes de sécurité fédérales prescrites qui sont en vigueur à la date de sa fabrication; et

d) le numéro d'identification du véhicule.

(2) Dans le cas d'un véhicule de tourisme à usages multiples, l'inscription doit également mentionner la catégorie du véhicule.

(3) Dans le cas d'un châssis,

a) l'inscription doit mentionner, à la place de la déclaration prévue à l'alinéa (1) c), que le véhicule est conforme aux normes de sécurité fédérales qui sont en vigueur à la date de sa fabrication, ainsi que le numéro de chacune des normes auxquelles le véhicule est pleinement conforme, et

b) l'étiquette de conformité mentionnée au paragraphe (1) peut être provisoirement apposée à un endroit non adjacent à la marque nationale de sécurité, de façon à être facilement lisible et à être protégée contre les intempéries auxquelles elle pourrait être exposée.

(4) Sauf les véhicules auxquels s'applique l'article 10, tout véhicule conforme aux exigences du paragraphe 108A(2) ou 111A(2) de l'annexe D, doit porter, sur l'étiquette de conformité, les mots «alternative Canada» après la mention des normes de sécurité fédérales dans la déclaration mentionnée à l'alinéa (1)c), et ces mots doivent être inscrits en capitales d'imprimerie d'au moins trois seizièmes de pouce de haut.

7. Un monteur qui achève de construire un véhicule à partir d'un châssis portant la marque nationale de sécurité doit

a) respecter les normes de sécurité établies à l'annexe D et qui s'appliquent au véhicule construit en ce qui concerne le travail accompli par lui; et

b) apposer, d'une façon inamovible, l'étiquette de conformité prescrite à l'article 6 à l'égard du véhicule construit, près de l'endroit où est apposée, sur le véhicule, la marque nationale de sécurité et sur la même surface.

Comptes rendus

8. Tout fabricant, monteur, distributeur et importateur de véhicules et tout fabricant, distributeur et importateur de pièces de véhicules destinées à un fabricant, doivent établir et tenir à jour les comptes rendus des essais effectués par le fabricant ou le monteur, ou pour leur compte, de façon à permettre à un inspecteur de déterminer si ces véhicules ou ces pièces de véhicules sont conformes aux dispositions du présent règlement.

Importation

9. (1) Sous réserve du paragraphe (4), il est interdit d'importer au Canada une catégorie de véhicule qui doit être

- (d) ASTM B 117 Method of Salt Spray (Fog) Testing, shall mean ASTM B 117—1964; and
 (e) exposed steel or brass end connections of the hose assembly shall be protected against rust or corrosion.

Reflecting Surfaces

107. (1) In this section,

“field of view” means the space forward of a transverse vertical plane tangent to the rearmost boundary of the SAE 99th percentile eye range contour of SAE Recommended Practice J941a Passenger Car Driver's Eye Range, (August 1967); and

“specular gloss” means the luminous fractional reflectance of a specimen at the specular direction.

(2) Within the driver's field of view, the specular gloss of the surface of the bright metal materials used on any vehicle for the

- (a) windshield wiper arms and blades,
- (b) inside windshield mouldings,
- (c) horn ring and hub of steering wheel assembly, and
- (d) inside rearview mirror frame and mounting bracket,

shall not exceed 40 units when measured by the 20 degree method of ASTM D 523-62T (June 1962).

Lighting Equipment

108. (1) Every vehicle shall be equipped with lamps, reflective devices and associated equipment in the number of units specified for that vehicle in Tables I and III to this section and such lamps, reflective devices and associated equipment shall be designed to meet the requirements of the standards referred to therein, except that

- (a) in the case of a truck tractor and a chassis-cab equipped with front turn signal lamps that are so constructed and located as to be visible to an overtaking driver, turn signal lamps need not be mounted on the rear;
- (b) intermediate side marker lamps and intermediate reflex reflectors need not be mounted on vehicles of less than 30 feet overall length;
- (c) a truck tractor of less than 80 inches overall width need not be fitted with any red rear side marker lamp or reflector;
- (d) a passenger car turn signal lamp shall have an effective projected illuminated area of SAE Class B as set out in SAE Standard J588d, (June 1966);
- (e) a passenger car multiple compartment turn signal lamp, and multiple lamps used to meet the turn signal requirement, shall have in respect of each such compartment or lamp an effective projected illuminated area of SAE Class B as set out in SAE Standard J588d, (June 1966);
- (f) the photometric minimum candlepower requirements for side marker lamps mounted on

- (i) passenger cars, and
- (ii) multipurpose passenger vehicles, trucks, trailers and buses of less than 80 inches overall width and less than 30 feet overall length,

- d) la méthode d'essai par vaporisation de sel ASTM B 117 est la méthode ASTM B 117-1964; et
- e) les pièces de connexion nues des tuyaux, faites en acier ou en laiton, doivent être protégées contre la rouille et la corrosion.

Surfaces réfléchissantes

107. (1) Dans le présent article,

«champ de vision» désigne l'espace situé en avant d'un plan vertical transversal tangent à l'extrémité la plus éloignée du 99^e percentile du contour de portée visuelle défini dans la Pratique recommandée J941a de la SAE, «Passenger Car Driver's Eye Range» (août 1967); et

«éclat spéculaire» désigne l'intensité de la réflexion lumineuse d'un spécimen dans la direction spéculaire.

(2) Dans le champ de vision du conducteur, l'éclat spéculaire de la surface des matériaux métalliques polis qui sont utilisés dans la construction

- a) des bras et des balais des essuie-glaces,
- b) des moulures intérieures du pare-brise,
- c) de l'anneau de commande de l'avertisseur et du couvercle de l'axe du volant, et
- d) du cadre et du support de fixation du rétroviseur intérieur,

ne doit pas dépasser 40 unités sur l'échelle de 20 degrés définie dans la méthode ASTM D 523-62T (juin 1962).

Éclairage

108. (1) Tout véhicule doit être équipé des feux, dispositifs réfléchissants et pièces d'équipement complémentaires dont le nombre est spécifié dans les tableaux I et III du présent article et ces feux, dispositifs réfléchissants et pièces d'équipement complémentaires doivent être conçus de façon à être conformes aux normes indiquées dans les tableaux susmentionnés, sauf que

- a) dans le cas d'un camion-tracteur et d'un châssis équipés d'indicateurs de changement de direction avant qui sont fabriqués et situés de manière à être visibles pour un conducteur en train de doubler, les indicateurs de changement de direction arrière ne sont pas nécessaires;
- b) les feux de position latéraux intermédiaires et les cataphotes intermédiaires ne sont pas nécessaires sur les véhicules de moins de 30 pieds de longueur hors tout;
- c) un camion-tracteur de moins de 80 pouces de largeur hors tout n'a pas à être équipé de feux de position latéraux arrière ou de cataphotes arrière rouges;
- d) l'indicateur de changement de direction d'une voiture de tourisme doit avoir une surface éclairée efficace de la classe B de la SAE tel qu'il est indiqué dans la norme J588d (juin 1966) de la SAE;
- e) l'indicateur de changement de direction à plusieurs compartiments et plusieurs lampes, utilisé dans une voiture de tourisme, pour répondre aux normes concernant les indicateurs de changement de direction, doit avoir pour chaque compartiment ou lampe, une surface éclairée efficace qui soit au moins la classe B de la SAE tel qu'il est indiqué dans la norme J588d (juin 1966) de la SAE;
- f) l'intensité lumineuse minimale requise pour les feux de position latéraux des
 - (i) voitures de tourisme, et des
 - (ii) véhicules de tourisme à usages multiples, camions, remorques et autobus de moins de 80 pouces de largeur hors tout et de moins de 30 pieds de longueur hors tout,

may be met for inboard test points at a distance of 15 feet from the vehicle and on a transverse vertical plane mid-way between the front and rear side marker lamps;

(g) a boat trailer may be equipped with clearance lamps amber to front and red to rear, located on each side at or near the mid-point between front and rear of the trailer that indicate the extreme width of the trailer;

(h) two or more licence plate lamps and two or more back-up lamps may be used to meet the requirements for a single licence plate lamp and a single back-up lamp respectively;

(i) wedge base type bulb sockets conforming to SAE Recommended Practice J822 Wedge Base Type Socket, (April 1962), may be used as an alternative to the bulb sockets of SAE Standard J567b Bulb Sockets (August 1965);

(j) sockets for special bulbs need not conform to the detailed requirements of Table I of SAE Standard J567b (August 1965);

(k) the minimum and maximum candlepower for the parking lamps referred to in Table III to this section shall be that shown for the appropriate test points in Table IV-A to this section;

(l) a chassis-cab shall be equipped with at least headlamps, tail lamps, stop lamps, turn signal lamps, front side marker lamps, front side reflex reflectors and rear reflex reflectors and associated equipment; and

(m) a pole trailer shall be equipped with at least tail lamps, stop lamps, turn signal lamps and rear reflex reflectors and associated equipment.

(2) School buses shall be equipped with four red signal lamps that conform to SAE Standard J887 School Bus Red Signal Lamps, (July 1964), and that are installed in accordance with SAE Standard J887, (July 1964).

(3) The lamps, reflective devices and associated equipment referred to in subsection (1) shall be installed on every vehicle in accordance with Tables II and IV to this section and in such a manner that their respective minimum photometric requirements shall be met, except that

(a) in the case of a tractor trailer combination vehicle, the requirement that intermediate side reflex reflectors and intermediate side marker lamps be located at or near the mid-point between the forward and rear side marker lamps, respectively shall apply only to the trailer;

(b) in the case of a truck tractor, the red rear reflex reflectors may be mounted on the back of the cab;

(c) the visibility provision for a back-up lamp may be fulfilled by two or more lamps functioning as a system; and

(d) in the case of a trailer, the amber front side reflex reflectors and amber front side marker lamps may be located as far forward as practicable exclusive of the trailer tongue.

(4) Two or more lamps, reflective devices and items of associated equipment may be combined where the separate requirements set out in this section for each lamp, reflective device or item of associated equipment so combined are met, except that

(a) no turn signal lamp shall be combined optically with any lamp, other than a stop lamp, that produces more than

peut être mesurée à des points d'essai intérieurs à 15 pieds du véhicule, situés sur un plan vertical transversal à mi-chemin entre les feux latéraux avant et arrière;

g) une remorque pour embarcation peut être munie de feux de gabarit jaunes à l'avant, rouges à l'arrière et situés, de chaque côté, à mi-distance ou à peu près à mi-distance entre l'avant et l'arrière, pour indiquer la plus grande largeur du véhicule;

h) deux ou plus de deux lampes de plaque d'immatriculation et deux ou plus de deux phares de recul peuvent être utilisés pour satisfaire aux exigences établies pour une seule lampe de plaque et un seul phare de recul respectivement;

i) des douilles d'ampoules du type à coin, conformes aux prescriptions de la Pratique recommandée J822 de la SAE, «Wedge Base Type Socket» (avril 1962), peuvent être utilisées au lieu des douilles prescrites dans la norme J567b, «Bulb sockets» (août 1965);

j) les douilles des ampoules spéciales n'ont pas à répondre aux exigences énoncées au tableau I de la norme J567b (août 1965) de la SAE;

k) les intensités lumineuses maximale et minimale des feux de stationnement mentionnés dans le tableau III doivent être celles qui sont indiquées, pour les points d'essai appropriés, dans le tableau IV-A du présent article;

l) un châssis doit être équipé au minimum de projecteurs, de feux arrière, de feux de freinage, d'indicateurs de changement de direction, de feux de position latéraux avant, de cataphotes latéraux avant et arrière et des pièces complémentaires, et

m) une remorque pour charges longues doit être équipée, au minimum, de feux arrière, de feux de freinage, d'indicateurs de changement de direction, de cataphotes arrière et des pièces complémentaires.

(2) Les autobus scolaires doivent être équipés de quatre feux rouges clignotants conformes à la norme J887 de la SAE, «School Bus Red Signal Lamps» (juillet 1964), installés de la façon prescrite dans cette même norme.

(3) Les feux, dispositifs réfléchissants et pièces d'équipement complémentaires mentionnés au paragraphe (1) doivent être installés sur chaque véhicule suivant les indications des tableaux II et IV du présent article et de telle sorte qu'ils demeurent conformes aux normes prescrites d'intensité lumineuse, sauf que

a) dans le cas d'un ensemble tracteur-remorque, la norme voulant que les cataphotes et les feux de position latéraux intermédiaires soient placés à mi-distance ou à peu près à mi-distance entre les feux latéraux avant et arrière ne s'applique qu'à la remorque;

b) dans le cas d'un camion-tracteur, les cataphotes rouges arrière peuvent être montés sur l'arrière de la cabine;

c) les dispositions concernant la visibilité du phare de recul sont respectées lorsque deux phares ou plus, fonctionnant comme un ensemble, sont utilisés; et

d) dans le cas d'une remorque, les cataphotes latéraux avant jaunes et les feux de position latéraux avant jaunes peuvent être placés aussi près que possible de l'extrémité avant, l'attelage excepté.

(4) Deux feux, dispositifs réfléchissants et pièces d'équipement complémentaires ou plus peuvent être combinés pourvu que les normes prescrites pour chacun des feux, dispositifs réfléchissants et pièces d'équipement complémentaires ainsi combinés soient respectées, sauf que

a) les indicateurs de changement de direction ne doivent être combinés optiquement à aucun feu, sauf les feux de

one-fifth the light intensity of the turn signal lamp at test points H-V, H-5L, H-5R and 5U-V as set out in the applicable standard referred to in Tables I and III to this section or that produces more than one-third the light intensity of the turn signal lamp at any other test point on or above the horizontal;

(b) no turn signal lamp shall be combined optically with a stop lamp unless the stop lamp is extinguished when the turn signal lamp is flashing; and

(c) no clearance lamp shall be combined optically with any tail lamp or identification lamp on multipurpose passenger vehicles, trucks, trailers and buses of 80 inches or more overall width.

(5) Devices for switching between lower and upper headlamp beams shall be provided on every vehicle other than a trailer in accordance with SAE Recommended Practice J564a Headlamp Beam Switching, (April 1964), or with SAE Recommended Practice J565a, Semi-Automatic Headlamp Beam Switching Devices, (April 1964).

(6) Devices for indicating to the driver when the upper beams of headlamps of the vehicle are illuminated shall be provided on every vehicle other than a trailer in accordance with SAE Recommended Practice J564a, (April 1964), except that the signal colour may be other than red.

(7) The tail lamps of any vehicle shall be illuminated when the headlamps of the vehicle are illuminated, except when the headlamps are being flashed.

(8) The stop lamps of any vehicle shall be illuminated upon the application of any service or emergency brakes of the vehicle, except that they need not be illuminated

(a) upon the application of the parking brake;

(b) when the vehicle is parked using an emergency brake as a parking brake;

(c) on a towing vehicle upon the application of the brakes of the towed vehicle only; and

(d) on a towed vehicle when the towed vehicle becomes separated from the towing vehicle.

(9) The vehicular hazard warning signal operating unit shall operate independently of the ignition or equivalent switch, and when energized shall cause the turn signal lamps, referred to in Tables II and IV to this section, to flash simultaneously.

(10) Where a vehicle is required by this section to be equipped with a back-up lamp, the back-up lamp shall be illuminated when the ignition or equivalent switch is energized and reverse gear is engaged.

(11) Every vehicle other than a vehicle equipped with a variable load flasher shall be equipped with a means of indicating to the driver, in accordance with SAE Standard J588d Turn Signal Lamps, (June 1966), that the turn signal system is energized.

(12) In the case of passenger cars, and of multipurpose passenger vehicles, trucks and buses of less than 80 inches overall width, the parking lamps shall be illuminated whenever the headlamps are illuminated, except when the headlamps are being flashed.

(13) Each lamp specified in Tables I and III to this section shall, when its associated equipment is in normal operation,

(a) be steadily illuminated, except that

freinage, dont l'intensité lumineuse dépasse le cinquième de celle des indicateurs de changement de direction aux points d'essai H-V, H-5L, H-5R et 5U-V des normes applicables mentionnées dans les tableaux I et III ou dont l'intensité lumineuse dépasse le tiers de celle de l'indicateur de changement de direction à tout autre point d'essai situé sur l'horizontale ou au-dessus;

b) les indicateurs de changement de direction ne doivent être combinés optiquement avec les feux de freinage que si ces derniers s'éteignent lorsque l'indicateur de changement de direction clignote; et

c) les feux de gabarit ne doivent pas être combinés optiquement avec les feux arrière ni avec les feux d'identification sur les véhicules de tourisme à usages multiples, les camions, les remorques et les autobus dont la largeur hors tout est de 80 pouces ou plus.

(5) Des dispositifs permettant la commutation entre les faisceaux-croisement et les faisceaux-route des projecteurs doivent être installés conformément à la Pratique recommandée J564a de la SAE, «Headlamp Beam Switching» (avril 1964) ou à la Pratique recommandée J565a de la SAE, «Semi-Automatic Headlamp Beam Switching Devices» (avril 1964).

(6) Des dispositifs servant à indiquer au conducteur que les faisceaux-route des projecteurs sont allumés doivent être installés conformément à la Pratique recommandée J564a (avril 1964) de la SAE, sauf que le signal peut être d'une autre couleur que le rouge.

(7) Les feux arrière doivent être allumés lorsque les projecteurs le sont, sauf lorsque les projecteurs clignent.

(8) Les feux de freinage d'un véhicule doivent être allumés lorsque le frein de service ou de secours du véhicule est actionné, mais n'ont pas à l'être

a) lorsque le frein de stationnement est engagé;

b) lorsque le véhicule est stationné à l'aide d'un frein de secours utilisé comme frein de stationnement;

c) sur un véhicule en remorquant un autre, lorsque seuls les freins du véhicule remorqué sont actionnés; et

d) sur un véhicule remorqué qui est détaché du véhicule remorqueur.

(9) Le dispositif actionnant les signaux d'avertissement doit fonctionner indépendamment du commutateur d'allumage ou du dispositif équivalent, et, lorsqu'il est actionné, doit faire clignoter simultanément les deux indicateurs de changement de direction mentionnés dans les tableaux II et IV du présent article.

(10) Lorsqu'un véhicule doit, en vertu du présent article, être muni d'un phare de recul, ce phare doit s'allumer lorsque le commutateur d'allumage ou le dispositif équivalent est actionné et la marche arrière engagée.

(11) Les véhicules autres que les véhicules équipés d'un clignotant à charge variable doivent être munis d'un dispositif indiquant au conducteur que l'indicateur de changement de direction est engagé, conformément à la norme J588d de la SAE «Turn Signal Lamps» (juin 1966).

(12) Dans le cas des voitures de tourisme, des véhicules de tourisme à usages multiples, des camions et des autobus qui sont d'une largeur hors tout de moins de 80 pouces, les feux de stationnement doivent être allumés lorsque les projecteurs le sont, sauf lorsque les phares clignent.

(13) Tout feu prescrit dans les tableaux I et III du présent article doit, lorsque son équipement complémentaire fonctionne normalement,

a) demeurer allumé, sauf que

(i) turn signal lamps and hazard warning signal lamps shall flash, and

(ii) lamps that are normally steadily illuminated may be capable of being individually flashed for signalling purposes;

(b) be of a colour in accordance with SAE Standard J578a Colour Specification For Electric Signal Lighting Devices, (April 1965).

(14) A polymer compound used in the manufacture of any lens of any lamp referred to in subsection (1) shall meet the requirements of SAE Recommended Practice J576b Plastic Materials For Use In Optical Parts, Such As Lenses And Reflectors Of Motor Vehicle Lighting Devices, (August 1966).

(15) No additional lamp, reflective device and associated equipment shall be installed on any vehicle if it impairs the effectiveness of the equipment required by this section.

(i) les indicateurs de changement de direction et les signaux d'avertissement doivent clignoter, et

(ii) les feux qui, normalement, sont constamment allumés, doivent pouvoir clignoter séparément pour fins de signalisation;

b) être d'une couleur conforme à la norme J578a de la SAE, «Colour Specification For Electric Signal Lighting Devices» (avril 1965).

(14) Un composé polymère qui sert à la fabrication de la lentille de l'une des lampes mentionnées au paragraphe (1) doit satisfaire à la Pratique recommandée J576b de la SAE, «Plastic Materials For Use In Optical Parts, Such As Lenses and Reflectors Of Motor Vehicle Lighting Devices» (août 1966).

(15) Il est interdit d'installer d'autres feux, dispositifs réfléchissants et pièces d'équipement complémentaires s'ils compromettent l'efficacité de l'équipement prescrit par le présent article.

Ottawa Safety Council

Conseil de Sécurité d'Ottawa

126 SPADINA AVENUE, OTTAWA, ONTARIO

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A PAPER ON MOTORCYCLE SAFETY

by

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OTTAWA SAFETY COUNCIL

Ottawa
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"(The motorcycle) skids easily, often walks on its rear wheel alone, and frequently goes out of control . . . the motorcycle is the most deadly vehicle operating on the public highway"

John J. O'Mara, Associate Professor
Civil Engineering, University of Iowa
January 18, 1967

"-- we do find that in nine cases out of ten, the cause of the accident can be traced to the failure of the 'human element' of the person or persons concerned."

The Police Motorcyclists' Manual
United Kingdom Home Office

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INCIDENTS

Motorcycle sales in Canada have ranged over the last three years and the rate of increase in registrations and accidents has corresponded,

TABLE 1

YEAR	REGISTRATIONS	ACCIDENTS	FATAL INCL. PASSENGERS	INJURED INCL. PASSENGERS
1960	34,476	688	24**	851**
1961	34,362	627	21**	816**
1962	33,101	629	12**	898**
1963	37,186	721	25*	1332*
1964	47,133	922	34	1807
1965	73,967	2460	70	3979
1966	107,934	3657	127	5832

** Excludes Quebec and New Brunswick

* Excludes New Brunswick.

(1)

This sudden addition to an already alarming highway accident toll has caused increasing concern in many quarters, and the American College of Surgeons has referred to this phenomenon as a new epidemic.

The motorcycle in North America has been alluded to as a weapon in the hands of social outcasts, and this type of opinion has lead to ill-informed and often irresponsible newspaper stories, magazine articles and television features. Many newspapers report every car/motorcycle accident as "a motorcycle collided with a car," often in cases where the cycle was struck broadside by the automobile;

and without quibbling about definitions, the implications are quite clear to the average reader. On a recent television show the camera panned briefly over two youngsters with badly injured legs while the announcer stated "another two victims of this lethal weapon". The information that one of the youths was a passenger on a motorcycle who ran through a stop-sign was apparently considered irrelevant, and was not brought out in the program.

Charges such as these inevitably lead to equally wild defences with the unfortunate side-effects of hasty legislation without regard for the long-term results.

What are the facts?

16411.

George Bernard Shaw said that there were three lies -- the lie, the damned lie and statistics. When the widely varying figures offered by the opposing factions in the current motorcycle controversy are compared, Shaw's quotation appears to be distressingly accurate. The science of statistics is the most effective method of collecting, tabulating and interpreting quantitative data. It is unfortunate that this art is being abused, and the following two examples are offered as specimens of the deadliest vehemence:-

- (a) The motorcyclist is 20 times more likely to be killed than a car driver.
- (b) More injuries in America are sustained on golf-courses than by motorcyclists.

If we examine the first proposition we discover that most Canadian motorcyclists are in the 16-25 male age group who own their own vehicles, and to compare these with a group aged 16-75 including professional drivers would seem to render the statement statistically invalid. The second submission is not worth discussion.

Until motorcycle operators are collated with a group of male automobile owners of a similar age-group, comparisons will be misleading. The proposed selection of automobile owners is suggested because a youngster who does not own a car usually drives the family vehicle for dates, has probably had some driver education, and knows that if he as much as scratches a fender he will lose his driving privileges.

There is some evidence at the time of writing that the figures obtained from such comparisons will not be markedly different. Investigations of traffic convictions and accidents between the two groups of motorcyclists and motorists in the 16-19 year old range⁽²⁾ indicate remarkably similar records. It is postulated that of the two groups in question, operator accident rates will be similar, operator deaths and injuries will be marginally higher for the motorcyclist; passenger deaths and injuries will be somewhat higher for the automobile group; and that all deaths and injuries caused by both vehicles will be considerably higher for the automobile.

However, this is pure speculation based on widely separated areas and limited investigations, and no hypotheses can be formed. The data necessary for such findings is impossible to glean from current accident reports, nor can we expect already over-worked police or provincial authorities to provide such information. But before any conclusions are reached or definitive legislative action is taken, this essential background must become the priority target of extensive research and testing, and should be undertaken by a competent body such as the National Research Council.

Until this is done, it will be possible for anyone wishing to win an argument to state glibly that more pedestrians are killed crossing streets on a green light than on a red.

THE VEHICLE

Background

While it may seem obvious that youngsters thoroughly enjoy riding motorcycles, this point has apparently eluded many concerned with the motorcycle controversy. One of the complications of the issues at stake is that those who understand our young people know very little about the motorcycle and vice versa.

The vehicle is comparatively new to North America and a great deal of bad publicity has given the motorcyclist the worst possible image. One of the most sensible articles of clothing associated with cycling is a leather jacket, but this is automatically related to "wild one" minority groups or "one percenters" as they like to be known; and in fact, these clubs actually form less than one per cent of the motorcycling fraternity. But the sudden boom in two-wheeler sales has not yet shaken the old prejudices.

Criticism

I have encountered vehement phrases in some papers which lead me to question the foundations of the documents. Stating that cycles cater almost exclusively to teenagers seeking thrills; and that the cycle skids easily, often walks in its rear wheel alone and frequently goes out of control; are, in my opinion, indicative of ignorance of both youngsters and motorcycles.

But ask any motorist or housewife what they think of motorcycles and they'll say "noisy, unstable dangerous machines." This is often associated with one early excursion on a motorcycle usually ending in a near-disaster. Let us consider the more mundane criticisms.

Noise

It is true that many motorcycles are unnecessarily noisy, but this is usually the result of injudicious tampering with muffler baffles. No one has told the owner that far from obtaining superior performance - he is decreasing acceleration, top speed and engine longevity. Most new motorcycles are relatively quiet and will comply with proposed European legislation. This will limit new cars and trucks to be quieter than 85 dbA and motorcycles to 90 dbA in the UK; while in France the requirements will be 83 dbA for cars and small trucks, 86 dbA for motorcycles and 90 dbA for large trucks (3) and buses. Noise is becoming more than a nuisance and law-enforcement agencies in the US are beginning to use sound level meters in many states.

Stability

Photographs of racing motorcycles show the machine at speed well in excess of 100 mph and canted over at acute angles with no evidence of instability. And anyone who has ever witnessed a motorcycle trial, where competitors skilfully negotiate ground impassable to most pedestrians, will testify to the equilibrium displayed by these vehicles.

As a relevant point of interest, recent advances made in the design of tires and brakes have made the technique of "laying the cycle down" more and more difficult, if not impossible, on good road surfaces.

Danger

This is a difficult charge to answer since so much depends on the operator. The Royal Canadian Mounted Police, the Ontario Provincial Police, and the Royal Canadian Corps of Signals all use motorcycles and have remarkably good accident and injury records; but it should be noted that all three standards of training probably produce the most competent motorcyclists in North America.

Knowledge of information concerning the injury and accident rate of one of these agencies indicates it is considerably less per motorcycle and per motorcycle mile than all other vehicles in that service. Unfortunately, policy does not permit publication of these figures but data is available from the Los Angeles Police Department. Their departmental accident statistics show an accident rate of 17.9 per million motorcycle miles, and 27.9 per million automobile miles. These figures were published recently in a prominent cycle magazine, and it is assumed that an accident is an event causing injury or necessitating withdrawal of a vehicle from service. Again, we have a comprehensive training program aimed at, and quite obviously producing the highest standards of professionalism.

Disadvantages

Neither operator nor passenger of a motorcycle is capsulized as in the case of the automobile, and what may prove to be a trivial mishap in the latter involving a bent fender, is often more serious to the motorcyclist. There is no doubt that car/motorcycle impacts are heavily loaded in favour of the automobile occupants.

Advantages

The motorcycle is a small target because of small bulk, has extremely responsive acceleration; superlative brakes; is very agile and can change lanes in a fraction of the time a car takes. The operator has unrestricted all-round visibility, and can see over the tops of contemporary cars in addition to this. There is no doubt that in the hands of a competent, mature operator, the vehicle can stay well out of danger and need never inconvenience any other road user. The motorcycle might almost have been designed to avoid trouble, and is potentially a safe vehicle -- up to the point of impact. And this is where the confusion begins.

The Problem

There is general agreement that what may be a slight jolt to a motorist can injure, maim or even kill a cyclist. Many doctors who see the results of serious motorcycle accidents are appalled at the severity of the injuries. These often resemble limb-shattering war-wounds, involve multiple fractures, and even a minor spill can result in dreadful abrasions to an improperly clothed youngster. Perhaps the most shocking feature is the youth of the victims.

In addition there has been an intensification in motorcycle deaths and injuries. The actual rate of these has not necessarily increased, but the motorcycle boom has still not registered with many of us, and there is a natural shock at the sudden realisation of the statistics. The U.S. National Safety Council estimates 200,000 injuries a year and there are about 2,000,000 motorcycles registered there; while in Canada there were 6,000 total victims with 108,000 motorcycles registered in 1966.

Referring to Table 1 we observe there has been an increase in registrations of over 200 per cent and 300 per cent for 1965 and 1966 respectively, over 1960. It is also interesting to note the remarkably similar increases in registrations (+ 45%); injuries (+46.4%); and total increase in victims (+17.2%), when we compare 1966 to 1965. It would seem that the sudden jump in deaths and injuries is a direct result of the increase in registrations. But when thousands are added suddenly to already grim statistics, concern must be expected especially when the new toll is exacted at the cost of our young people. Indeed, we accept the right of the state to take active measures to protect its youth.

THE CA

Primary Causes

A study of operator victims provides a seemingly useful means of identifying the causes of accidents. Unfortunately we are again faced with the same problem of a lack of information encountered in our current collection of statistics. Data compiled at accident scenes invariably focuses on the physical rather than the psychological aspects of the incident. We know little about the operators' experience, training, attitude or state of mind prior to the accident. However, it is generally agreed that much or most of the roots of unsafe driving lie in the two general areas of attitude and experience.

Attitude

While attitudes are the prime suspect as accident causes; their complexities have prevented accurate classification. There is evidence that some basic personality patterns are contributory factors to bad driving habits, and that there is a definite connection between driving behaviour and the individual's personal environment.⁽⁵⁾

But let us consider a more tangible manifestation of the attitudes formed by the habits of an early age, in the case of the average Canadian child who is given a bicycle at the age of six. For about ten years he or she is permitted -- almost encouraged -- to run red lights and stop signs, ride the wrong way on one-way streets, ride at night without lights and is not expected to show consideration for other road-users. When such a child puts a motor on the bicycle, one can hardly expect the habit patterns to change overnight.

Experience

We are beginning to discover that Pontesseri determined many years ago -- that we are not taught, but that we learn; and we learn most from our own experiences. Motorcycling, however, is very much like flying in that it can be exhilarating and quite safe, but mistakes are not allowed. The first lesson in experience a motorcyclist learns soon prove to be his last, and we know that the rider with less than six months experience is twice as likely to have an accident as the more experienced cyclist. A recent study of 53 accidents at the University of North Carolina showed that 30 per cent of the victims had been riding for the first time.

Secondary Considerations

Traffic accidents are the leading cause of death for all young men in the 16-25 age group whether they operate automobiles or motorcycles. In the United States more than a third of unmarried automobile operators under 25 were involved in accidents in 1966; and although the young male driver forms a mere one eighth of all drivers, they are held responsible for one third of all fatal accidents.

Many cyclists in the 16-19 age group are long on skill but short on judgement, and ride on the spiny ridge of disaster -- gas foot on or both wheels locked. But consider the responsible, proficient motorcyclist.

On roads overflowing with other vehicles; many of them incompetently handled and some resentful of the cyclists intrusion into what has been until recently the automobile domain; it is not sufficient not to make mistakes. The motorcyclist must continually make allowances for other road-users' errors, discourtesies and sporadic criminal negligence. A study by the metropolitan Toronto Police in 1966 revealed that in all motorcycle/car collisions in the Toronto area, the car driver was at fault in over 65 percent of the accidents. But if this is a fact of life then several courses must be taken. First of all we must inform motorcyclists that this condition exists and that right of way does not guarantee safe passage, and secondly, the car driver must be made aware of his responsibilities of the fact that a motorcycle is entitled to a traffic-lane and that this vehicle has several unusual characteristics. It is small consolation to bereaved parents to know that their son or daughter had the right of way.

Licensing Legislation

Current Ontario licensing requirements forbid operation of a motorcycle by riders without a permit and a fairly comprehensive test must be passed before a license is granted. Anyone wishing to practise for a test must do so on private property, but for an overwhelming majority this is impossible, and anxiety to qualify leads many youngsters into breaking the law. It is a conservative estimate that 20 percent of the motorcyclists on our roads are unlicensed; but to the youngsters, there appears to be no alternative. The added

fear of apprehension to such an operator may be a contributory factor in some accidents, but the additional effect of breeding contempt for some, if not all of our laws, is felt to be dangerous.

The test itself, while systematic, should be expanded. Off-street examination involving pattern-riding and braking followed by operation without passengers over a short city course by day, and observed by examiners on foot should not be considered a visa to unlimited operation of a motorcycle. But the tacit agreement exists. Once the youngster has his license, he is at liberty to take his girlfriend on to the nearest throughway. With her weight altering the machine's handling characteristics, the probability that the cycle is underpowered for safe highway operation, and considering that neither operator nor passenger has been made aware of these or many other factors, the results are too often a foregone conclusion.

SOME SOLUTIONS

General

In our streamlined society we want fast, simple answers — and an easy out. Surprisingly enough, the solutions to the motorcycle problem are relatively few, in contrast to the many factors each with it's attendant complexities. But there are no easy answers. The present dilemma is complicated by the unfortunate fact that as a result of many emotional accusations and counter-charges; the groups, agencies and individuals who could contribute so much to the solutions dissipate their energies in disclaiming responsibility for the problem

As an example, the motorcycle trade in general has been forced on the defensive by superficial or irresponsible criticism and now shy wildly from any suggestion that the motorcycle can be dangerous in any circumstances. One outcome of this is the reluctance of some manufacturers, distributors and dealers to support training courses, since the acceptance of such a course implies that particular skills are needed to operate a motorcycle.

Who is responsible? Who is to blame? The answers are not important. What is important is that the sudden availability of a mechanically propelled vehicle to our young people has revealed a number of imperfections in our system. Government, parents, manufacturers, distributors, dealers, communications media, responsible motorcycle clubs, road-users and youth itself can all contribute towards the reduction of a needless and senseless loss. How?

We may divide our proposals into two groups:-

(a) Primary Safety

This area will attempt to deal with the basic causes of accidents and will embrace

- i INFORMATION
- ii ATTITUDES and
- iii EXPERIENCE.

(b) Secondary Safety

Here we will look at materiel devices which will eliminate or lessen injury or degree of danger, and for the purposes of this paper will ignore the environment and deal with

- i OPERATOR and
- ii VEHICLE

PRIMARY POLICY

Information

Little is known about the problem, and less about the motorcycle; but this has not deterred the army of experts who are recommending proposals ranging from a total ban of the vehicle to seat-belts for operators and passengers. Figures and statistics produced by many of these authorities are culled from the United Kingdom, South Africa, Australia and Elbow Bend, Manitoba.

In Britain, the Government's approach to the road⁽⁸⁾ safe problem is: first to assemble all the facts about accidents; second to seek out and test remedies by scientific research; third, to evaluate the remedies; fourth, to try the solutions out on the ground and to modify and re-modify them until a solution is reached. This method would seem to furnish the essential elements of a scientific approach to any problem. What is happening to-day, however, is that some facts are being produced from wherever information is available - or sought - and are immediately translated into sweeping legislation. No further comment should be necessary.

Until a comprehensive investigation is undertaken by a responsible scientific body such as the National Research Council, any regulations passed may have adverse long-range effects. But it is not sufficient for legislation to be passed on the basis of statistics alone. There is a need for figures to be translated into

workable formulae by mature, experienced motorcyclists. The ideal situation would involve National Research Council and Government working in the closest co-operation with the Canadian Governments Specifications Board, and the motorcycle industry. In addition, a steering committee should be formed of experienced road and competitive motorcyclists recruited from responsible clubs, the motorcycle detachments of the Royal Canadian Mounted Police, the Royal Canadian School of Signals and the Provincial Police. This panel should be given teeth, with the power of veto or implementation of concepts and legislation.

Attitude

Attitude is, by and large, a parental responsibility, and until our children are shown by example and intelligent education that the rules we have formulated to protect ourselves apply to everybody, there is little point in expecting them to behave in a responsible manner. If we could only ensure that our children have healthy attitudes, little else would be needed. They would acquire the necessary skills, knowledge and techniques, and would voluntarily select and use protective equipment and accessories. The impasse encountered in inculcating correct attitudes, however, is that it will be at least five years and probably ten before results will show the wisdom of this course. And of course we want to put things right to-day.

Experience

The problem here is to provide experience to novices in a situation where an error will not injure, maim or kill. This is probably done best in a structured learning environment in circumstances of the educators' choosing, where mistakes are not catastrophic and where the incidents can be analyzed. In our culture, the best method would appear to be schools or training courses.

There is a current controversy concerning the merits of driver education. The value of the various courses depends entirely on the standards and methods of the instructional staff. In vehicle operation there are requirements for knowledge and skills and the combination of these resulting in effective techniques. We know that in lectures the most competent teacher can only transmit, at most, 40% of his lesson, even to highly motivated students; and educators are increasingly adopting the Montessori methods. Contemporary teaching opinion suggests that we should no longer require, as an example, a student to attend a year's lectures in metallurgy. Instead, the tools and information should be supplied and the pupil would be required to find the raw materials and convert them into a finished product, such as a pocket-knife.

Teaching techniques based on these principles are being introduced in the Ottawa Safety Council Motorcycle Courses. In nine months over 200 successful candidates have completed this course and while it is too early to say whether or not the courses have been successful, some "feed-back" is being sought. Dr. Eric O'Flynn Campbell of the Traffic Injury Research Foundation of Canada is

using students of the Ottawa Safety Courses who have a Department of Transport license, as a control group to compare with untrained cyclists.

(a) Training

In the U.K. there is strong evidence that private (8) commercial motorcycling instruction has never been a paying proposition and is very unlikely to become one. But the Royal Automobile Club in conjunction with the Auto Cycle Union operate 150 schools in the U.K. Motorcycles are donated by the manufacturers; instructors are recruited from responsible clubs affiliated to the A.C.U.; and the scheme is administered by the R.A.C. A Ministry of Transport working committee, which included representatives of the manufacturers and also of local authorities recently recommended that the project should be developed more widely and that local authorities should assume responsibility for providing not only training grounds but also the instructors and the motorcycles. The M.O.T. presently contributes \$3. per student enrolled, and each student pays \$5. The Government in the U.K. strongly supports the expansion of motorcycle training and it has been proposed that a further \$750,000 a year be set aside for this purpose.

(b) Licensing

Experience can also be gained by the young novice by extension of the current Ontario regulations.

It is considered that the test in force at the time of writing is too severe for a cyclist with no experience and is not comprehensive enough to permit unlimited operation of a motorcycle. The control of the environment in which the youngsters would be permitted to gain experience could be achieved by restricting operation to urban areas, by day, without passengers and on a motorcycle clearly marked as being operated by a person with limited experience. Qualification for these privileges should be limited to physical and mental fitness, knowledge of traffic law and the ability to start, steer and stop a motorcycle.

After a period of from one to three months, a test based on the current examination but including the carriage of passengers, highway operation by day and by night and adverse traffic and weather conditions should be given. These more comprehensive requirements could be assessed practically, by simulation or - at worst - by knowledge.

It is readily admitted that such proposals will cost valuable tax dollars but it is considered that the returns would more than justify the costs. Additionally it is felt that the current test fee is nominal and that an increase here might also ensure more determined test candidates. But how much is a youngest life worth?

The death of a potential Kennedy or an Einstein is incalculable but Dr. Julian A. Waller of the California State Department of Public Health, has quoted the eventual cost to a community of the death of the average 25 year old male as \$128,000. While this may seem a chilling view of the loss of human life, perhaps it is the only route in a cost-conscious culture.

Initial Vehicle Training

Bicycle "Rodeos" for school children are in current vogue but these are not really achieving the aim of the game, and in many cases have degenerated into once - a - year days of fun and prizes. I am not deprecating fun and games -- both should be essential elements of all educative training, but these must not be allowed to become the reason for the activity.

Many useful functions are carried out by our service clubs and it is felt that they could contribute much to early vehicle training. An aggressive and continuing program of cycle safety aimed at grade school children would pay handsome dividends.

Counselling

Canadian motorcycle clubs are largely made up of mature, responsible competition riders but little emphasis is placed on the road aspects of the pastime. Such atmospheres do not attract young newcomers to motorcycling and yet it is felt that much mutual benefit would result from a closer liaison. Not only would the "big brother" relationship help the novice over the initially dangerous hump of finding his bearings in a hazardous new environment, but the clubs would gain enormously in a welcome source of assistants, officials and potential competition entrants for sporting events. Add to this the bonus of larger spectator audiences for competitions, and a chance for the youngsters to get some practical advice and assistance on the sadly neglected but necessary chore of preventive maintenance.

Co-ordination

It is felt that each of the foregoing proposals can do much to reduce the overall carnage on our roads, but there is a very serious obstacle. It is admitted by the British Government that the (8) organisation to plan and co-ordinate effective action in these fields must be strengthened. The selection of who could do what in the Province of Ontario ranges from the Department of Transport, the Canadian Automobile Association, the Ontario Motor League, the Canadian Motorcycle Association, the Motorcycle Distributors Association and on down through service clubs and over 40 separate safety organizations. The national problem is even more complex. It would appear that all can contribute in some measure, but that control, direction and monitoring of effort should be exercised by the National and/or Provincial Departments of Transport.

SECONDARY SAFETY

General

Devices which eliminate or lessen the degree of danger or injury remind me of mopping up the floor under an overflowing sink, without bothering to pull the plug or shut off the tap. We are continually chasing effects and almost always ignore the causes. There is no doubt that a law compelling the wearing of safety helmets will greatly reduce the death and injury rate but it will not decrease the accident rate.

The whole question of compulsory safety devices such as helmets, goggles, crash-bars and the like is fraught with pitfalls, involving the fundamentals of liberty and civil rights. John Stuart Mill gave the first principle of liberty as being that the individual is not accountable to society for his actions, as far as these concern the interests of no one but himself. Nevertheless the individual is accountable for actions which are prejudicial to the interests of others and Mill is quite clear that society can impose social or legal punishment for such action. But motorcyclists rarely kill or injure other road users, and almost all safety devices proposed are designed not for the protection of others, but for the cyclist himself. However Mill goes further and states that it is the duty of public authority to prevent accidents.

Operator Safety

It is interesting to note that the state of New Mexico has passed recent laws requiring the licensing of motorcycle operators and the inspection of motorcycles, but that the question of compulsory helmets may mean re-writing the state constitution. Paul G. Lacy, the Assistant Attorney General has stated that requiring a motorcycle rider to wear a helmet will render him less likely to be injured but that if he chooses to ride without one he will not be likely to injure his fellow man, and that legislation requiring helmets would be an infringement of the riders civil liberty. My only comment here is that if a cyclist kills or injures himself, he can cause pain, anguish and suffering to relatives or friends. Mr. Lacy goes on to say however that a municipality could require motorcyclists under a certain age to wear safety helmets as a valid exercise of the power of parens patriae.

the inherent right of the state to safeguard its future by protecting its youth. This would seem to be an acceptable and thoughtful compromise, in the present circumstances.

But although head injuries cause the greatest number of motorcycle deaths, these wounds themselves comprise only about 3 percent of the total injuries suffered. There is much that can be done to lessen the additional harm caused to accident victims.

The leather jacket is an extremely sensible article of clothing, protecting the wearer from the effects of the elements and abrasions in event of a spill. Stout sensible footwear protecting the ankles and leather gloves are recommended in addition to goggles. But it is considered that these aids to safety should be encouraged by education and not legislated. There is little to be gained and much to be lost if it is mandatory to wear goggles at all times, when these mist badly in certain temperature/humidity conditions; and a youngster who wears badly scratched plastic lenses at night may have complied with the law but is probably imbued with a death wish.

The Vehicle

Much has been done by the manufacturers; as an example brakes and tires have improved tremendously in the past decade, but more can be done.

The detectability factor of many small machines with direct lighting systems is extremely poor, and stop-lights which are acceptable at night are often inadequate for day use. Separate stop lights would be an advantage and turn signals of a generous size although of narrow spaced relatively closely, do provide an added device for attracting a motorists attention.

The colours for vehicles, clothing and helmets should be carefully considered and more thought given to such aids as reflective materials, paint and pressure sensitive tape. Windshields and goggles if used should be shatter proof.

It is also considered that a method of securing helmets to parked motorcycles would do much to encourage the wearing of "skid-bys" by our young people. It has been my observation that youngsters dislike leaving a helmet hanging from the handle bars, and resent having to carry or check it.

Summary

It is stressed again that almost all secondary safety proposals are aimed at effects and not at causes. Crash helmets can be equated to parachutes -- they are extremely useful after someone has made a mistake.

Safety can be compared to common sense, and both are difficult to legislate. As an example current legislation in Ontario forbids handle bars on motorcycles extending more than 15 inches above the seat of the motorcycle, but I have observed no decrease in the number of these "ape - hangers". I believe the reason is that enforcement

must be carried out by an already overworked police force; and in the case of the high handlebars, if an offender is stopped for a check he merely has to rotate his handlebars downward to comply with the regulation. Laws such as these tend to diminish respect for all legislation.

All available information indicates that the only satisfactory answers to many of our questions lie in the cultivation of sound attitudes and the development of intelligent education. Unfortunately this is a slow process.

CONCLUSION

A great deal of emotionalism and a lack of information colour any discussion in Canada concerning motorcycles. There is no doubt that deaths and injuries have increased considerably over the last three years. But when I consider the lack of preparation we give our youngsters, and the generally forbidding and often hostile environment they enter, I am surprised that the accident incidence is not higher. This new addition of casualties has graphically revealed some weaknesses in our system. One proposed answer has been to ban, to make it unpleasant or difficult to operate the motorcycle; but it is contended that this merely moves the problem elsewhere. Other solutions have suggested that motorcyclists should qualify for an automobile license before they are allowed to take a motorcycle test. Conversely, it has been proposed in the UK that car drivers should acquire one or two years experience as a motorcyclist before they are allowed to operate an automobile. What seems

to be a common denominator in the last two proposals is an agreement on the need for experience.

While it is conceded that motorcycle operators and passengers are more vulnerable than those in other vehicles, the singular characteristics of the cycle provide the potential for the experienced operator to keep well out of danger. But car-drivers rarely grant the motorcyclist the courtesies of safety extended to other⁽⁹⁾ vehicle operators. Investigations of car/motorcycle collisions often indicate lack of consideration, prejudice and occasional malevolence on the part of the automobilist. Dr. Eric Berne deals with the Rights⁽⁷⁾ Demander in his book "Games People Play", and most travellers have encountered the psychotic who will force a school-bus into the ditch because he had the right of way. The inexperienced motorcyclist may not survive an encounter with such drivers.

Information about motorcycling is sparse in North America. The Dominion Bureau of Statistics (D.B.S.) is attempting the monumental task of collecting, collating and disseminating information concerning all traffic accidents. The most comprehensive tables supplied to D are from the Province of Ontario, but some other provinces show little desire to co-operate. The only office in a position to stipulate what information is necessary is DBS, and the mistaken economy of supplying inadequate intelligence is not only a disadvantage to the provinces concerned, but to the entire country.

But even when information is available it is often ignored.

One of the most objective papers on this subject was prepared by P. Marwick and Mitchell for the Nova Scotia Safety Council. Unfortunately newspapers only print the more grisly aspects of this report; which although it recommended a number of enlightened proposals, has been relegated to the dusty obscurity of government files. It is hoped the comprehensive studies in preparation by Dr. E. O'Flynn Campbell of the Traffic Injury Research Foundation and Dr. W.R. Ghent of Queen's University will not be treated in a similar manner.

However, if information is made available and is acceptable to legislators, it must be applied intelligently. There is a need for experienced, mature motorcyclists who have the wisdom, knowledge and mastery of techniques that only experience can bring. These are the men who can assist in the translation of statistics into incisive rules and safe habits, and they are to be found in the ranks of responsible clubs, professional competitors and police and military motorcycle detachments.

While there is a shortage of motorcycle facts, there is intelligence concerning vehicle operation in general which is applicable to the current situation. It is usually agreed that a significant (1) percentage of our accident problems stem from poor attitudes or a lack of experience or both. These deficiencies can be compensated to some degree by driver education. Most of the studies that have been (14) conducted to evaluate these courses have concluded that driving safety records are significantly better for trained than untrained drivers.

There is some disagreement with this viewpoint, but the merit of any training depends entirely on the calibre of the instruction. If we equate experience to schooling, most objections to driver education disappear; and it is significant to me, that the armed forces train young men to handle the most devastating weapons with complete personal safety.

In summary, it is believed that many of the problems discussed can be relieved extensively by the cultivation of healthy attitudes; by enabling youngsters to gain experience in a controlled environment and by the education of all road-users. But the primary requirements are undoubtedly information and research directed toward the causes of accidents and their corrective measures.

RECOMMENDATIONS

1. It is suggested that the present Ontario Department of Transport Motorcycle Test be expanded to enable novice motorcyclists to gain the necessary experience by:-

- a. Operation in urban areas
- b. Without passengers
- c. By day and
- d. On a machine distinctively marked as being operated by an inexperienced person.

Qualification for this familiarization privilege should be limited to physical and mental acceptability; knowledge of traffic law; and the ability to start, steer and stop a motorcycle. After a period of not less than one nor more than three months the candidate should be subjected to a more comprehensive test involving, either practically or by simulation

- a. Operation in traffic
- b. Carriage of passengers
- c. Operation by night
- d. Adverse conditions and
- e. Highway and throughway operation.

This test should be a challenge, and failure would entail compulsory re-examination of the first test at an increased fee.

2. It is recommended that all minors who are operating or travelling in or on motorcycles be compelled to wear safety helmets in accordance with CSA Standard D230.

3. It is urged that motorcycle courses should be encouraged by national, provincial and local authorities; and that the Canadian Motorcycle Association, the Motorcycle Industry and local safety organizations provide the frame work for such training.
4. It is suggested that a scientific agency such as N.R.C. investigate motorcycle accidents with particular emphasis being placed on:-
 - a. Operator attitude and experience
 - b. Faulty operating procedures through
 - (i) ignorance
 - (ii) inadequacy of driving skill
 - c. Cues which may have indicated dangers
 - d. Evasive action which may have averted the accident
 - e. Benefits of training and/or experience
 - f. Need for protective devices for
 - (i) Operator
 - (ii) Vehicle
5. It is felt that a strong campaign sponsored by the Motorcycle Distributors Association and the Canadian Motorcycle Association, directed at motorists and stressing the right of the cyclist to his share of the road, would be beneficial.

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